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Effects of the 1974-75 Recession on Health Care for the Disadvantaged

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Abstract

A summary of the findings from seven studies on the effect of the 1974–75 economic recession on the health care of the disadvantaged is presented. Specific subjects studied were: (1) public finance, (2) trends in facility use, (3) utilization, (4) use of community hospitals in Rhode Island, (5) access to ambulatory care, (6) and (7) two studies on the impact of rising unemployment on the loss of job-related health insurance coverage. See back-of-title page for information on the names of the contractors, and instructions for purchasing the full reports.

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Foreword

National attention has focused recently on the problems of people who are, because of events beyond their control, unable to pay for health care. Two such groups—the unemployed and those who face expenses for catastrophic illness—are the subject of continuing interest to policy-makers and legislators.

In 1974, the National Center for Health Services Research (NCHSR) convened two conferences to assess the state of our knowledge. The first was concerned with the costs and incidence of catastrophic illness. The second dealt with inflation and the adverse impact of a severe economic downturn upon the access, the quality and the quantity of health services provided to the disadvantaged. Recommendations from these conferences served as the basis for major NCHSR research initiatives. As a result of the second of these initiatives, NCHSR supported seven studies that produced new insights into the effects of high inflation and unemployment on the disadvantaged, and on the quality and quantity of care they received.

Findings of these studies, summarized in this report, should prove useful to planners, policy-makers, and legislators in formulating national health insurance options, and in administering health care policies in the event of future severe economic downturns.

Gerald Rosenthal, Ph.D.
January 1980

Introduction

The seven studies reported in this summary explore the effects of the recession that spanned 1974 and 1975—the worst economic downturn in this country since the end of World War II—on the health care of the disadvantaged. Topics focus on the impact of inflation and unemployment during 1974 and 1975 on hospital use, Medicaid, consumer access to care, and the ability of the jobless and other economically disadvantaged consumers to pay for health care. Research issues addressed by the studies were stimulated by conferences sponsored by the Department of Health, Education, and Welfare, and by the National Center for Health Services Research (NCHSR).

In general, study findings indicate that the effects of the 1974–1975 recession on the health care of the disadvantaged were adverse to a significant degree, but not as severe as anticipated. In that respect, some results proved surprising. For example, study results indicate that although as many as half the jobless lost their health insurance when they became unemployed, this loss did not overwhelm most families because they were able to pay for necessary care out-of-pocket, and could postpone some care until employment was found.

Some effects of the recession on hospital utilization were also unanticipated. For example, three studies hypothesized that increased unemployment would increase usage of public hospitals and other facilities with flexible payment systems, yet results indicate no significant changes in the use of hospital-based primary care. Furthermore, the studies unexpectedly found that rapid inflation was a major problem for public hospitals, whereas private hospitals, with independent resources, proved better able to withstand the economic pressures. Due to cities' inability to provide funds to cover increased costs, some urban public hospitals actually had to cut back on services, which resulted in an overall decrease in hospital usage.

The recession had no observable impact on the utilization of hospital emergency rooms and outpatient departments—even in areas having substantial unemployment. However, some exceptions were noted for inner-city hospitals, which are a primary source of care for many disadvantaged inner-city residents irrespective of prevailing national economic conditions.

Medicaid programs were beset by recession-caused financial problems. A study showed that even with increased State expenditures for 1974–1975, Medicaid programs were not able to meet the rising demand for services because inflation in medical care prices absorbed the extra funding. While cuts in Medicaid services occurred in those States most seriously affected by recession-induced revenue losses, the States in general attempted to maintain services but could not substantially expand them in response to the increased demand.

Also, the recession of 1974–1975 affected sources of payment for health care. An investigation of hospital use in Rhode Island, a State whose unemployment rate was much higher than the national average, showed a significant shift from private to public sources of payment during the period. This study also showed a slight reduction in rates of elective surgery during this time, as well as the continuation of a long-term trend of decline in length of hospital stays.

Although the impact of the recession was not as severe as was anticipated, the studies offer some ideas as to possible steps to relieve recession-induced hardships affecting the health care of the disadvantaged. Consideration might be given to the role of financial assistance for States in order to minimize any reduction in the fiscal support of health care programs (e.g., Medicaid payments). Further study might also be done of the viability of selectively extending the health insurance coverage of workers who become unemployed based upon the anticipated length of unemployment.

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An evaluation of the impact of adverse economic conditions on the health status of the poor

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Introduction

The analysis of hospital utilization has long been confined to the study of private, voluntary institutions. The growing concern with the health status of the disadvantaged, a segment of the population that has, in relative terms, been excluded from the private community hospital sector, suggests that our traditional focus of analysis must be extended. This concern provided the impetus for the current paper which presents a model of the public community hospital sector.

The confluent rising prices and increasing unemployment of the last decade have increased the numbers of disadvantaged persons, and have resulted in substantial interest exhibited by policy-makers, administrators and researchers. The prevailing tendency for inflation in the health sector to exceed the general rate of inflation compounds the problem that the poor already experience in trying to purchase essential items such as food and fuel. High rates of unemployment further aggrevate the problems of the disadvantaged. Specifically we observe a marked negative relation between unemployment rates and the percentage of aggregate income received by low-income families. Thus, in periods of stagflation, when there are unacceptably high rates of both unemployment and inflation, the disadvantaged are jobless, lack health insurance coverage, and must confront rising prices given very limited financial resources. Public funds, instead of offsetting these pressures, tend to provide less care in these times when health status is generally deteriorating.

At present the full extent of the consequences of these adverse economic conditions on the utilization of public facilities are not known. Yet, there is much debate over the amount and allocation of public funds for health care. Unfortunately, without an understanding of public hospital utilization, it is not possible to anticipate the impact that national health insurance, expanded grants for hospital construction and modernization, alternative structures of public hospital organization and other types of government action will have on the health status of the disadvantaged. Thus our ability to

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formulate strategies to ameliorate the adverse effects of inflation and rising unemployment on the nation's health status is presently constrained by our limited knowledge of the utilization of facilities in the health system.

This report attempts to remove this constraint and thereby increase our ability to deal effectively with the problem of minimizing the adverse effects of inflation and unemployment on the health status of the disadvantaged. To date, much of the research in hospital utilization considered the health industry in complete isolation from the rest of the overall economy. In contrast, the model developed in the present study removes hospital utilization from this vacuum and examines the impact of inflation and unemployment on public vis-a-vis private community hospital utilization. The analysis suggests that adverse economic conditions are associated with a cutback in public funding relative to private community hospital utilization.

Section I examines the public community hospital sector and presents a statistical profile of the public community hospital. After an overview of the entire U.S. public hospital system and a description of the significance of the public community hospital, we relate the findings of a field survey of public and private community hospitals. The findings of the field survey are delineated in greater depth in the section on the Economic Behavior of Public Hospitals, where we present a formal model of public vis-a-vis private complete hospital utilization. The section on the Estimation of the Public vis-a-vis Private Community Hospital Utilization Model relates the results of our estimates of the effects of unemployment and inflation on public vis-a-vis private community hospital utilization. Finally, in the Conclusions and Implications for Policy, we discuss some of the implications of these findings given policy alternatives which potentially could ameliorate the observed deleterious effects of adverse economic conditions on the health status of the disadvantaged.

The public community hospital sector and its significance

The hospital industry is not comprised of a homogeneous group of institutions. Hospitals may be classified on the basis of ownership, control, and type of service provided. We are interested in delineating behavioral differences on the basis of control, specifically public versus private. In our study, we consider one market, namely those hospitals which provide primarily short-term general or community services. Inasmuch as proprietary and voluntary hospitals may be included in the same market, we do not differentiate between these types of ownership.

As the comparative data analysis between public and private community hospitals indicates, over the years the public hospital has constituted a substantial portion of our health service resources. The American Hospital Association (AHA) traces the institutional lineage of the contemporary public community hospital back to early attempts by governments to provide minimum care for citizens who were sick and destitute. The workhouses in Seventeenth century England and the almshouses in colonial U.S. later evolved into the public community hospital.

Our data show that public community hospitals comprise over 30 percent of all community hospitals and account for more than 20 percent of all cases treated in these institutions. Compared to all community hospitals, the public hospitals use a proportionate amount of resources; public community hospitals employ slightly over one-fifth of all community hospital personnel and spend approximately twenty-two percent of the community hospitals' payroll expenses. Public community hospitals' share of total community hospital assets is a bit lower than 20 percent; their average total expenses are slightly higher at 22 percent. Compared to all private community hospitals, the public sector trains more medical and dental interns and residents per hospital and currently accounts for well over one-third of all such teaching in all community hospitals.

When we consider the last decade we observe that the private community hospital grew larger while the public community hospital decreased its size. Furthermore, in all regions the number of public hospitals increased more than the number of private hospitals. However, the relative share of public community hospitals in each area remained fairly stable. Although immediately following the adoption of Medicare and Medicaid, the public sector's percentage of hospital admissions declined, a long-term consideration of utilization trends implies that the public proportion of total hospital utilizaton has remained fairly constant.

If we consider total cost per patient day and the components of this cost during this ten-year period, we observe several interesting occurrences. First, total cost per patient day increased in both sectors, although the cost of a patient day was higher in private community hospitals during the earlier part of the period and higher in the public community hospitals in the later years. Second, it is interesting that the staffing levels exhibited corresponding patterns. In the earlier part of the period, the private community hospital sector had a higher level of staffing, by the middle of the period, the public community hospital sector had the higher level of staffing. It should be noted, however, throughout the entire period the public sector has had the smaller proportion of highly trained and experienced nursing and medical non-trainee personnel. If we examine the nonlabor components of cost, we find that the public sector's share of capital stock is lower than that in the private sector and has remained constant over the last decade.

In order to extrapolate from these trends and predict the future of the public community hospital vis-a-vis the rest of the hospital sector, it is necessary to understand the behavior of the public vis-a-vis the private community hospital. Because the future role of the public community hospital, like all hospitals, will be affected by changes in the national economy, in the following section, we are especially concerned with the impact of the economy on public and private community hospital behavior.

The economic behavior of public hospitals

On the basis of the highly aggregated data presented in Table 1, one might infer the presence of an inverse relationship between changes in public community hospital utilization and the adverse economic conditions of unemployment and inflation. The private community hospital utilization trends with respect to the prevailing economic trends are less easy to identify.

While no strong conclusions can be made about the impact of inflation and unemployment on public versus private hospital utilization on the basis of these highly aggregated data, we can surmise that adverse economic trends have direct and differential effects on the utilization of public and private community hospitals. In order to further investigate these effects, a more detailed analysis is required.

This section presents a model to serve as the basis of additional analysis. In view of the inability of the existing models of hospital behavior to identify and evaluate the impact of economic conditions on public vis-a-vis private community hospital utilization, we are required to introduce a new model to predict the impact of inflation and unemployment and provide information about ways in which public policy might be appropriately administered.

In order to understand the behavior of a complex institution such as the public community hospital, it is necessary to understand the institution's basic organizational and administrative relationships. Specifically, we seek to conceptualize the decision-making process within the public hospital. This conceptualization process requires our answering the following questions: Who determines the public hospital's goals? What are the objectives of public hospital behavior? What are the relationships that exist among the factors affecting public hospital behavior? Finally, we must ask ourselves: What are the constraints which limit the public hospital's pursuit of its goals?

The extensive body of the health economics literature devoted to hospital behavior does not provide an explicit answer to any of these questions. In fact, the literature is characterized by a void in the theory of public hospital behavior. Public hospitals are typically over-looked or implicitly assumed to be no different from the non-proprietary institutions which are the primary focus of the existing research.

The popular models of hospital behavior that are delineated in the literature may be classified into groups determined by the hospital's motives of behavior or maximands—quantity, utility, profit, physicians' income. In spite of the existence of several models, none seems to adequately deal with

Table 1. Public and private community hospital utilization trends and economic trends

Year	Unemployment rate	CPI (1967 = 100)	Admissions per capita				Patient days per capita			
			Public		Private		Public		Private	
			Level	%Δ	Level	%Δ	Level	%Δ	Level	%Δ
1965	4.5	94.5	.027		.097		.22		.74	
				−3.7		−2.1		.0		.0
1966	3.8	97.2	.026		.095		.22		.74	
				.0		−17.9		9.1		−13.5
1967	3.8	100.0	.026		.078		.24		.64	
				11.5		39.7		8.3		42.2
1968	3.6	104.2	.029		.109		.26		.91	
				3.4		1.8		.0		1.1
1969	3.5	109.8	.030		.111		.26		.92	
				3.3		1.8		3.8		.0
1970	4.9	116.3	.031		.114		.27		.92	
				3.2		1.8		−3.7		.0
1971	5.9	121.3	.032		.116		.26		.92	
				.0		.0		.0		.0
1972	5.6	125.3	.032		.116		.26		.92	
				3.1		2.6		.0		1.1
1973	4.9	133.1	.033		.119		.26		.93	
				0		4.2		.0		3.2
1974	5.6	147.7	.033		.124		.26		.96	

SOURCE: Unemployment rate is from U.S. Bureau of Census, *Statistical Abstract of the United States* 1972 (Table 349, P. 216) and 1975 (Table 565, P. 349); CPI is from *Statistical Abstract of the United States* 1975 (Table 687, P. 632); Population figures derived from *Statistical Abstract of the United States* 1975 (Table 2, P. 5); Hospital data derived from AHA data tapes.

the public community hospital insofar as no model recognizes the existence of an independent source of decision-making authority outside of the hospital. Thus, we lack a model of hospital behavior that includes political as well as hospital authorities as integral parts of the hospital organization.

Although public hospitals differ in internal structure, size, control, location, and socio-economic environment, the nature of public ownership implies a common set of goals and constraints. Thus, public community hospitals have not only their accountability to governmental authorities in common, but also their responsibility to guarantee access to patient groups that vary widely in their needs, demands, and expectations of health care. It is these issues, that we address in our model which attempts to depict the behavior of the public community hospital.

The basis for our model is the prevailing mandate which requires the public community hospital to guarantee access to hospital services to all market area residents. To fulfill this mandate, the public community hospital is granted a budgeted amount of governmental funds. Thus, the public community hospital is financed by a governmental organization which, in turn, derives its funding from tax revenues and intergovernmental subsidies. The public hospital operates at the point where it maximizes the budgeted output subject to the constraint that the total cost of its operations is equal to or less than the budgeted output. Insofar as our model postulates that the role of the public community hospital was to guarantee access to care, the output of the public community hospital is measured in terms of patient days. Our model also incorporates the organizational constraints of the municipality or state system. These constraints are severe; they include the lack of budget autonomy, the inability to achieve a maximum recovery of expenses through reimbursement from cost reimbursers and sound credit and collection policies, and the inability to attract and hire able and innovative personnel.

Within this framework, the effects of inflation and unemployment may be analyzed. The effects of inflation, we hypothesize, are largely a function of the expectations of the public policy-makers. To the extent that inflation is unanticipated and the budget does not increase enough to offset the increased costs associated with the pre-inflation output, the public hospital is forced to cut back its output.

Unemployment is also predicted to be associated with a decline in public community hospital utilization. In times of high unemployment, there are more sick persons and more persons without job-related health insurance. During these times, private community hospitals often engage in "skimming" practices which result in a transference of expensive cases from the private to the public sector. Thus, the case mix of the public community hospital may become more expensive thereby causing the total cost curve to shift upwards.

Unemployment might also affect the public community hospital's budget-output function. It is likely that in an economic environment characterized by a large amount of unemployment, tax revenues would fall and the demand for public programs to aid the unemployed would rise. The limited amount of funds in the face of an unemployment-induced increased demand for them might reduce public health financing and cause the budget-output curve to fall.

In accordance with the literature, the private community hospital may be represented as an institution ruled by a tripartite consisting of trustees, medical staff, and administrators. All three groups seek to maximize the quality and quantity of hospital output. The trustees' concern with the institution's prestige and status is shared by the administrators, who often get paid in relation to the size and reputation of the institution. Furthermore, the doctors seek to provide a high quality of care, and enjoy a good reputation, both of which will be readily obtained in a more prestigious institution.

The literature, however, does not provide an unambiguous theory of output determination. Instead, the literature implies only that private community hospitals operate somewhere in the region bounded on the lower side by the output level consistent with profit-maximization and bounded on the upper side by that output level consistent with the break-even constraint. The private community hospital would choose an equilibrium level of output which lies between the profit maximizing output where marginal cost equals marginal revenue (MC=MR), the quantity-maximizing output where total cost equals total revenue (TC=TR).

Even if we were able to determine the exact level of equilibrium output of a private community hospital, the issue of a private community hospital's output determination is still somewhat obscure. Since the literature suggests that output is a multi-faceted variable connoting a combination of volume measures (for example, patient days, admissions and length of stay) and quality measures (such as facilities and mortality rates), our hypothetical designation of a particular level of output still leaves us with the following question: What level of quantity vis-a-vis quality does this point imply? In order to answer this question, the tradeoff curve between quality and quantity as well as indifference map revealing the shape of the private community hospital's decision-maker's indifference curves must be specified.

The lack of an appropriate aggregate quality-quantity tradeoff curve and set of indifference curves as well as the inherent obscurity involved in empirical work regarding the private community hospital's output determination precludes the precise definition of equilibrium output that is possible for the public community hospital. Consequently, in the case of the private community hospital, we can identify only an area of feasible output, whereas with regard to the public community hospital, we are able to consider output determination in more detail.

In attempting to analyze the effects of inflation and unemployment on private community hospital utilization, our model cannot provide an unequivocal prediction. Although unanticipated inflation clearly results in an upward shift of the total cost function, an increase in unemployment and the corresponding decrease in job-related health insurance revenues exert downward pressure on the total revenue function. Both of these trends, *ceteris paribus* would lead us to predict that adverse economic trends are inversely related to private hospital utilization. On the other hand, in the private community hospital sector, there are not the same constraints that characterize the public community hospital sector. Consequently, the private community hospital, functioning with relative autonomy and the ability to determine its own goals, develop its own capital funds, control its own revenue collection, manage its own budget and take charge of its own hiring and firing of personnel activities, may be able to ameliorate the effects of adverse economic times.

In conclusion, we hypothesize that there are differences in behavior between public and private community hospitals and that the public community hospital is less able to ameliorate the adverse effects of rapid inflation and/or high unemployment. Furthermore, adverse economic conditions are postulated to be associated with a decline in public community hospital utilization.

The estimation of the public vis-a-vis private community hospital utilization model

In order to test the above hypotheses, it is necessary to specify an econometric model in which we postulate a relationship among adverse economic conditions, demographic and socioeconomic factors, and public and private community hospital utilization. By holding the effects of the demographic and socioeconomic variables constant, we are then able to isolate, identify, and evaluate the impact of unemployment and inflation on both public and private community hospital utilization.

The utilization of public and private community hospital services may be depicted as:

$$U = F\,(CPI, UR, X)$$

where

U = Utilization of public or private community hospital services,
CPI = Inflation index,
UR = Unemployment rate, and
X = Vector of socioeconomic and demographic (control) variables.

Table 2 presents estimates of several variants of the above hospital utilization equation. Inasmuch as data limitations require that the model be estimated for annual state aggregates, our sample includes separate observations for each state and year in the decade 1965–74.

As Table 2 indicates, the overall explanatory power of the regressions (R_2) is high, indicating that most of the important variables have been included. Furthermore, the results for the variables depicting the prevailing economic conditions give strong support to our hypothesis that adverse economic conditions have a significant and negative impact on public hospital utilization.

When inflation is measured by the Consumer Price Index, the inflation

Table 2. Effect of unemployment and inflation on public and private community hospital utilization

Dependent Variable	*CPI*	*UR*	*ACI*	*OLDP*	*ADMPV*	*PDPV*	*ADMPU*	*PDPU*
ADMPU $R^2 = .9778$	—	—	.06 (.80)	.03 (.027)	−.12 (−1.90) *	—	—	—
ADMPU $R^2 = .9781$	−.32 (−.88)	−.12 (−2.17) **	.07 (.80)	.01 (.11)	−.12 (−1.95) **	—	—	—
PDPU $R^2 = .9659$	—	—	−.05 (−.58)	.06 (.44)	—	.008 (.13)	—	—
PDPU $R^2 = .9668$	−1.07 (−2.07) **	−.15 (−2.48) ***	−.09 (.94)	.05 (.38)	—	−.002 (−.03)	—	—
ADMPV $R^2 = .8882$	—	—	.17 (2.80) ***	.16 (1.66) *	—	—	−.07 (−1.70) *	—
ADMPV $R^2 = .8887$	.28 (.84)	−.04 (−.95)	.21 (2.73) ***	.14 (1.48)	—	—	−.08 (−1.76) *	—
PDPV $R^2 = .8879$	—	—	.006 (.07)	.18 (1.77) *	—	—	—	−.02 (−.44)
PDPV $R^2 = .8880$	−.66 (−1.49)	−.04 (−.88)	−.04 (−.44)	.19 (1.80) *	—	—	—	−.03 (−.72)

Table 2. Effect of unemployment and inflation on public and private community hospital utilization—Continued

Dependent Variable	DENS	YREALP	MDSP	GPSMD	LDEP	TIME	RSS	SER
ADMPU $R^2 = .9776$	.03 (1.33)	.60 (3.23) ***	−1.58 (−7.01) ***	.19 (2.88) ***	.04 (5.26) ***	.04 (5.78) ***	8.1136	.1493
ADMPU $R^2 = .9781$	.03 (1.21)	.37 (1.45)	−1.40 (−5.94) ***	.19 (2.49) ***	.04 (5.19) ***	.07 (2.79) ***	8.0025	.1477
PDPU $R^2 = .9869$	.06 (1.92) *	1.02 (4.18) ***	−1.91 (−7.58) ***	.09 (1.10)	.03 (4.71) ***	.01 (1.26)	10.28	.1677
PDPU $R^2 = .9883$	.06 (1.78) *	.54 (1.86) *	−1.63 (−6.14) ***	.11 (1.33)	.03 (4.70) ***	.08 (2.82) ***	10.107	.1659
ADMPV $R^2 = .8882$	.01 (.60)	.35 (1.91) *	−.74 (−3.43) ***	−.14 (−2.18) **	.05 (1.08)	.03 (4.83) ***	5.8934	.1294
ADMPV $R^2 = .8887$	.01 (.59)	.28 (1.29)	−.72 (−3.28) ***	−.16 (−2.31) **	.04 (.90)	.02 (1.06)	5.8714	.1285
PDPV $R^2 = .8879$	.004 (.17)	.56 (2.76) ***	−1.10 (−4.86) ***	−.23 (−3.33) ***	.21 (4.16) ***	.01 (1.43)	7.1407	.1391
PDPV $R^2 = .8886$	.002 (.09)	.30 (1.60)	−1.01 (−4.19) ***	−.21 (−2.93) ***	.22 (4.37) ***	.06 (1.98) **	7.0882	.1389

Notes: t—scores in parentheses
Significance: * at the 0.1 level
** at the .05 level
*** at the .01 level

All variables except time and state are logarithms. The constant term for each equation and the coefficient for state are not shown. Observations are for individual states for 1966 through 1974. Estimation is by OLS. The final columns show the residual sum of squares and the standard error of regression. Variables are CPI, consumer price index; UR, unemployment rate; ACI, acute conditions index; CLDP, ratio of aged population to total population; ADMPV, per capita private hospital admissions; PDPV, per capita private hospital patient days; ADMPU, per capita public hospital admissions; PDPU, per capita public hospital patient days; DENS, population density; YREALP, per capita real income; MDSP, doctor-population ratio; GPSMD, ratio of general practitioners to total physicians; LDEP, lagged dependent variable; TIME, time dummy.

elasticity of public community hospital patient days per capita utilized is significant, negative, and greater than unity. When public community hospital utilization is measured by admissions per capita, the inflation elasticity is also negative, but is not significant. This result implies that length of stay, a statistic computed by dividing patient days by admissions, is a decision variable more likely to be affected by nonmedical considerations than admissions. When private community hospital utilization is measured by the same inflation measure, we find that, contrary to public community hospital utilization trends, neither private patient days nor admissions has a significant elasticity. This finding is consistent with our earler hypothesis that public community hospitals, generally having relatively little managerial flexibility, are less able to ameliorate adverse economic conditions than are their private counterparts.

This institutional difference between public and private community hospitals is also apparent when we consider unemployment. Regardless of the hospital utilization measures we employ, unemployment is not a significant influence in the private sector and is a significant and *negative* factor in the public sector. Again, this result is expected insofar as it is consistent with our earlier hypothesis that *ceteris paribus* unemployment results in increased costs to public hospitals which, in turn, result in decreased public hospital utilization.

Thus, the significance and signs of the coefficients of unemployment and inflation give support to the hypothesis that adverse economic trends are associated with a decline in public hospital utilization and are only sporadically associated with private hospital utilization.

Conclusions and implications for policy

Our estimated model shows that adverse economic conditions have a negative impact on public community hospital utilization. Furthermore, the estimated equations suggest that if the overall demographic trends remain stable, the percentage changes in the public community hospital admission patient day utilization rates can be expressed as functions of the percentage changes in the consumer price index and the unemployment rate.

If we consider the period 1965 through 1975 when the mean annual percent change in inflation was 5.4 percent and unemployment increased by 17.0 percent, we can see that these economic conditions were associated with a 3.77 percent fall in public community hospital admissions per capita and 8.33 percent decline in patient days per capita. If we evaluate the magnitudes of these changes at our sample's mean values of 35.2 public community hospital admissions per thousand persons and 277.52 public community hospital admissions per thousand persons, we see that inflation alone is associated with nearly a 2 percent cutback in public community hospital admissions per thousand persons and an approximate 6 percent decline in public community hospital patient days per thousand persons.

Since our findings indicate that inflation and unemployment are associated wtih a cutback in public vis-a-vis private community hospital utilization, we may infer that in adverse economic times, the health status of many persons—the poor, near-poor, uninsured, rural inhabitants, and members of minority groups—might deteriorate. It is disconcerting to think that while public community hospitals are forced to supply less services, it is likely that the resulting decreased utilization rates may be incorrectly interpreted as demand-side phenomena.

At present, there is much discussion regarding the future need for public community hospitals. In particular, it has been contended that the public community hospital will be an anachronism once a system is established that ensures financial coverage for hospital services for all Americans. This argument assumes that if everyone possesses the financial means to seek care in the private sector, there will no longer be a need for the public community hospital. We do not agree with this line of reasoning; rather we feel that the need for the public community hospital will not be outdated as long as the role of the public community hospital is defined in accordance with the needs of a society that attempts to ensure universal access to hospital services.

The enactment of national health insurance undoubtedly will have a significant impact on the demand for hospital services. If hospitalization coverage is available to everyone in the country, then, in effect, the government will be increasing the demand for health services. As the Medicare and Medicaid experiences suggest, the supply side of the market may not be able to adequately respond to this increased demand. Specifically, consumers of hospital services may be constrained by geographic and socioeconomic barriers. The public community hospital could very well become an important means of solving the access-to-health-care problem.

If the existence of the public community hospital is predicated on the need to bring the quantity of hospital services supplied closer to the quantity of hospital services demanded, we might characterize the role of the public community hospital as "market-perfecting." It may be argued that organization inevitably follows function: If the role of the public community hospital is market-perfecting, its organization cannot be market-impeding. To date, there have been numerous obstacles barring the way of translating the role of the public community hospital into viable programs and effective services. Reform of public community hospital internal organization and external regulation are important areas worthy of future research.

Utilization: the effects of unemployment and inflation on hospital-based ambulatory care

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Introduction

This nationwide study of the impact of increased rates of unemployment and inflation on the use of hospital-based ambulatory care was conducted to explore the effects of sudden economic downturns on this aspect of health care of disadvantaged populations, and to help formulate public policy for the delivery and financing of ambulatory care.

In early 1975, rapidly rising unemployment coupled with increasing inflation prompted legislative efforts to provide health insurance for persons who lost protection when laid-off, as well as for the marginally employed who had no, or only minimal, insurance coverage. At this period, more people were unemployed, and for longer periods, than at any one time since the depression of the 30's. Unemployment rates varied among types of wage earners, from industry to industry, and among major labor market areas. However, an increased chance of job loss occurred among both blue and white collar workers and both inexperienced and experienced employees.

This increased unemployment was accompanied by an upsurge in inflation, causing reduction in the real income of many persons. During 1974, the purchasing power of real wages declined by 5.6 percent. Beginning in April 1974, the end of economic stabilization, medical care costs began spiraling more quickly than the Consumer Price Index. By 1975, health care expenses averaged $547 a person. The health insurance benefits of laid-off workers rarely continued more than one or two months after lay-off. Existing public medical care financing programs covered very few of the unemployed.

Given these circumstances, the authors hypothesized that people might react to economic stringency by switching from private physicians to hospital emergency rooms and clinics, where they would feel less inhibited about not paying a bill or postponing payment, and where sliding fee scales are often available.

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Hypotheses

- Depressed economic conditions, particularly large increases in unemployment, result in larger than expected increases in hospital emergency room and/or clinic volume.
- Depressed economic conditions, particularly large increases in unemployment, might cause one or more shifts in the characteristics of outpatient visits; these might include an increase in the proportion of emergency room visits that are non-emergent, or an increase in the proportion of patients covered by Medicaid or local or state welfare, or an increase in the uncollectables for self-paying patients.

Methodology

A two phase study design was used to test these hypotheses. Part one was the collation and analyses of existing data on hospital ambulatory care utilization, unemployment, medical manpower, and population characteristics in the 147 major labor areas of the United States. The second phase was a series of site visits to 19 hospitals located in labor areas with selected ambulatory visit and unemployment characteristics.

Data sources for the analyses of existing information were tapes from the American Hospital Association's Annual Surveys (1969 to 1975), the Manpower Administration's *Area Trends in Employment and Unemployment* series (1973 to 1975), the American Medical Association's *1974 Distribution of Physicians*, and the Bureau of the Census' *County and City Data Book* (1972). These sources provided information on changes in the volume and type of hospital outpatient visits over a seven year period, and data on which to explore the relationships between outpatient utilization and variables such as unemployment rates, per-capita income, physicians in hospital-based practice, physicians in office-based practice, and hospital admissions. These data also permitted the researchers to determine whether changes in outpatient utilization paralleled changes in unemployment rates by labor areas and by hospitals with different characteristics, such as size, control, teaching status, and location.

The analyses emphasize the relationship between changes in outpatient visits and changes in unemployment rates, rather than static correlations between rates of unemployment and rates of hospital emergency and clinic utilization; this static question is different than the question of effects of changes. The fundamental units of observation are major labor areas as represented by community hospitals located in these areas. The measures of change of unemployment rates between two time periods were the absolute difference and the percent change in rates. The indices of change for emergency and/or clinic visits between two time periods were the absolute difference between visits per capita and the percent change in visits. The primary measure of association between the indices of change in visits and of changes in unemployment rates was correlation as measured by Kendall's tau.

The analyses first look at the correlations between changes in measures of utilization and in measures of unemployment from 1974 to 1975 for all major labor areas, and then focus on classes of major labor areas and of hospitals. Unemployment data was then lagged by one year to determine whether any relationships between indices of unemployment and of visits might be visible in the several labor areas experiencing an early rise in unemployment. In addition, multiple regression analyses were done to study the relationship of indices of utilization to changes in the following independent variables: unemployment rates, rates of hospital-based physicians, rates of office-based physicians, and per capita income.

The purpose of the second part of the study design, a series of site visits to community hospitals, was to obtain information not available from the aggregate data about the impact of economic conditions on the organization, delivery, characteristics of visits, and fiscal aspects of hospital-based ambulatory care. In addition, these visits provided a flexible format in which to study the reactions of particular hospitals to changing economic conditions, as well as a new perspective on the aggregate data. These site visits replaced the planned mail survey when the Office of Management and Budget, (OMB) approval for the latter was granted too late for practicable administration.

Major findings

The findings of this study *do not* support the original hypotheses that increases in unemployment cause increases in the volume and/or changes in the characteristics of hospital-based ambulatory care utilization. In fact, the nationwide overall rate of increase in visits slowed down during the 1974 to 1975 period.

Highlights of the findings include:

- The rate of growth of emergency visits in the hospitals in major labor areas, about eight percent annually from 1969 to 1974, dropped to two percent between 1974 and 1975. The increase in clinic visits for 1974 to 1975 was also two percent; this was one-third the average of the previous five years.
- The decreased rate of growth of emergency and/or clinic visits occurred with no systematic relationship to unemployment rates or changes in these rates.
- Lagging of unemployment data to allow for a longer period of time in which unemployment could affect visit volume, failed to increase the strength of the relationship between ambulatory care utilization and changes in unemployment.

- The strongest statistically significant relationship was the positive correlation (paralleled by a significant regression coefficient) between clinic visits and hospital-based physicians per capita. While this showed that demand and supply for hospital-based ambulatory care tended to move together, it did not indicate causality.

Data collected during the site visits, with one exception, supported the findings of the aggregate data that depressed economic conditions produced little if any impact. This exception was the inner-city, particularly the public, hospital—the primary provider of hospital-based services for the medically indigent.

Major findings of the site visits were:

- Public hospitals were especially affected by adverse economic conditions because a major source of income of these hospitals, direct governmental subsidies, did not keep pace with inflation and service volume. In addition, the rate of collection for self-pay patients at these institutions was low.
- The emergency room and clinic capacities of almost every hospital visited were saturated because of spatial and/or personnel constraints.
- In the past, significant changes in utilization of ambulatory facilities at the site visited hospitals occurred when changes in capacity were effected.
- Hospitals are experiencing strong incentives to expand their ambulatory services, one of the most important being pressure to keep beds full.
- All hospitals visited had recently completed, were in the process of completing, or were about to start building expanded ambulatory care facilities.

Reliable methods for collecting historical data on hospital-based ambulatory care utilization are still not widely used. Existing aggregate data bases, such as the American Hospital Association's annual survey, as well as information available at individual hospitals, were found to be greatly lacking in reliability, uniformity, and comprehensiveness. While the available data is highly suspect, it is probably useful for studying gross trends. However, any attempts to rationalize the financing, organization, and/or delivery of hospital-based ambulatory care services will be severely hampered unless these data limitations are remedied.

Hospitals and labor areas of the study

[Characteristics of the 147 major labor areas and the study hospitals.] While the 2440 community hospitals included in this study were, in general, representative of the 5800 community hospitals nationwide, they tended to be somewhat larger. For example, while they comprised only 42 percent of the nation's community hospitals they accounted for 62 percent of the beds, 63 percent of the emergency visits, and 79 percent of the clinic visits. There were proportionately fewer state and local government hospitals, with over two-thirds of them being nongovernmental, not-for-profit hospitals.

Fifty-five percent of the population of the United States, live in the major labor areas. These areas are urbanized and generally have boundaries coinciding with Standard Metropolitan Statistical areas. Unfortunately, it is not possible to compute an average annual unemployment rate for these areas. Between 1974 and 1975, however, the nationwide rate increased from 6.1 percent to 8.5 percent. During this same period the proportion of major labor areas having either substantial or persistent unemployment rose from 27 percent to 70 percent. The major labor areas had higher inpatient utilization rates per capita than the nation as a whole.

Other findings

1. For the 147 major labor areas combined, there was no discernable relationship between indices of visits and indices of unemployment.
2. Areas with high unemployment rates were no more likely than areas with low or medium unemployment rates to have larger than average increases in emergency and/or clinic visits. This was also true when the labor areas were stratified by type of unemployment—persistent, substantial, or neither and when they were grouped by region of the country.
3. Stratifying the major labor areas by rates of hospital-based physicians did not help to reveal any relationship between changes in unemployment and changes in visits.
4. In the 33 percent of the areas where the per capita income was greater than $4,472, there was a positive relationship between 1975 emergency visits per capita and unemployment indices. The rank correlation coefficients, however, were small: .29 and .31, respectively.
5. Teaching hospitals were no more likely to have the rate of change of their emergency and/or clinic visits affected by high unemployment than non-teaching institutions.
6. Larger hospitals, as measured by bed size, were no more apt to show a relationship between indices of unemployment and indices of visits than smaller ones.
7. There was a very small positive (.11) but statistically significant relationship between visits per capita and the indices of unemployment in voluntary and government nonfederal hospitals.
8. There was no significant relationship between indices of visits and of unemployment in hospitals located in cities with at least 138,000 persons. In smaller cities the correlations between emergency and clinic visits per

capita and indices of unemployment were significant and positive, but small, ranging from .10 to .13.

9. Lagging unemployment data by one year showed no strong or consistent relationships between an early rise in unemployment and volume of visits. This continued to be true when the major labor areas were stratified by rate or type of unemployment, region, or rate of hospital-based physicians.

10. Lagging of unemployment data did not significantly effect the correlation coefficients between indices of unemployment and of visits when hospitals were stratified by teaching status, bed size, number of visits, control, or size of city in which the hospital was located.

11. Hospital personnel did not feel that economic conditions had observable effects on the level of utilization of their outpatient facilities.

12. Hospital officials did not believe there were changes in the level of urgency of problems seen in their outpatient facilities during 1974 to 1975. Non-emergent conditions continued to account for a large, but not increasing, proportion of emergency room visits.

13. Although the hospitals tended not to have information on sociodemographic characteristics of outpatients, they uniformly denied, with one exception, changes in patient characteristics during 1974 to 1975. This one exception was the impression of employees in two institutions that the patient mix contained significantly more unemployed persons than previously.

14. Incentives for expanding ambulatory services arise because outpatient services are the direct referral source for as much as half of all inpatient admissions, can be a way of attracting and retaining physicians, and can be an entree into the future expansion of inpatient facilities.

15. Hospital reporting systems for ambulatory care are usually very poor. Those that exist are rarely reliable or coordinated, because the person or department responsible for such efforts changes frequently.

16. At visited hospitals, personnel reported that data forwarded by them to the American Hospital Association was often inaccurate or not representative. Reasons included: differing interpretations of definitions; changing personnel responsible for data collection and/or reporting; and issues involving the structure of outpatient facilities.

17. There are variations among hospitals and within hospitals as to the interpretation of American Hospital Association outpatient visit categories —emergency, clinic, and referred. Inconsistencies in the classification of visits make comparisons difficult.

18. What is counted as a visit to a hospital emergency room or clinic varies among hospitals. This variation includes: 1) reporting total number of treatments during one visit instead of reporting a single visit; 2) reporting as emergency visits medical emergencies only, surgical emergencies only, or both; 3) variation in reporting or not reporting methadone clinic visits,

mental health visits, etc.; and 4) including under clinic visits, visits to hospital-based prepaid group practices like Kaiser-Permanente.

Policy Implications

The nature of the study design made it impossible for us to draw policy implications about the health or health care of the unemployed in general. However, a discussion of options for policies related to the expansion and/or subsidization of hospital-based ambulatory care was possible. The findings suggested the following major points.

- Continued encouragement or approval of the expansion of ambulatory care in non inner-city hospitals may be counter-productive; more research is needed on the extent to which ambulatory care does in fact substitute for inpatient care, and on methods to discourage discretionary emergency room utilization without discouraging utilization by urgent and emergent patients.
- The desirability of direct subsidization of ambulatory services in community hospitals in non-impoverished areas is questionable. These services are largely supplied in emergency rooms and are probably self-supporting. Such services may provide a desirable target for third-party payers to reduce costs.
- Inner-city hospitals are in serious financial straits independent of, but exacerbated by, short run economic fluctuations. Without some form of national health insurance, additional public support is probably desirable, perhaps through contractual mechanisms.

Impact of varying economic conditions on the use of community hospitals in Rhode Island

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Introduction

The fact of an inverse relationship between socioeconomic status and both the incidence of health problems and access to health services has been established. While characteristics of this disparate relationship have changed over time, there is still a significant difference among socioeconomic groups (especially the extremes of the spectrum) with respect to:

- The incidence of illness and disability
- the age at, and cause of, death
- the accessibility of health services
- the quality of the care received

In response to accumulated knowledge of the health care problems related to low income, programs have been developed to improve access to health care and enable more equitable allocation of health resources. As an example, Titles V, XVIII, and XIX of the Social Security Act were basically adopted to encourage access by reducing the cost-of-care barrier. Other programs have been designed to reduce geographic and/or socioeconomic barriers through the development of services that would specifically serve the low income population; the neighborhood health center is one example.

There has been a consequent reduction in both the financial and geographic barriers to health care services, especially among the lower socioeconomic groups. However, the barriers have not been totally eliminated:

- the desired and perhaps needed spectrum of services is not always geographically available;
- health care services still require a certain proportion of out-of-pocket expense among all socioeconomic groups.

While it is hoped the combined impact of these programs over time has been reduction in the health problems of the lower socioeconomic groups, the actual relationship between the program's efforts (including cost) and change in health status are not generally known. As an example, an increase

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in use of services by the disadvantaged is reported at least in one locale. However, in relation to need (as qualified in terms of number of days spent in bed due to illness or disability), low income individuals still apparently use fewer services than the higher income groups.

While health may have an equally high value among all socioeconomic groups, the absolute dollar amount of income available to spend on maintenance of health decreases in a direct relationship with socioeconomic status. Low income individuals as a group seek and receive health care services less often than middle and upper income groups. The pattern of use may not totally be a result of patterns of income, but there is a strong relationship.

In recent years, the dual economic forces of inflation and recession have diminished income at all socioeconomic levels. In the face of rising prices, all households, especially those of the lower socioeconomic groups have had to choose among competing requirements for food, shelter, fuel, clothing, and health services. Accordingly, health care consumption within the lower income groups may have been modified: seeking health care may be delayed until a problem or condition is more acute, and/or at a later stage in the disease process; as a result hospitalization is required, when earlier detection might have entailed less intense, less costly therapy, and a more beneficial outcome.

Rhode Island economic conditions

During the early years of the 1970's the United States' economy could be termed relatively "stable" at least in comparison to the "middle" years of the decade. Even during this time of calm, the economic situation within Rhode Island tended to lag somewhat behind that of the country. As some indication of the "health" of an economy, the Rhode Island unemployment rate from 1970–1973 was approximately one percent higher annually than the rate for the United States as a whole.

The impact of the recession was particularly strong in Rhode Island. While the unemployment rate in Rhode Island was generally higher than the rate for the United States during the early 1970's, unemployment increased at a much faster rate in 1974 and 1975. In the spring of 1975, the unemployment rate for the state reached 16 percent, compared to about 9 percent for the nation. Also, a more rapid rate of increase in personal income in the United States relative to Rhode Island for the period 1970–1975 indicates the greater severity of the recession in Rhode Island.

The weakness which made the Rhode Island economy especially susceptible to the general recession in the United States began in 1973. At that time, the United States Navy began to close its major bases within the State. Given the smaller population size of the State and the large number of civilians employed by the Navy, the closing presented a severe economic shock to the

State. The State government increased its normal efforts to attract new business and industry to the State. These efforts were successful to the degree that the loss of jobs resulting from the naval pull-out were partially offset by new or expanded business and industry. However, the offset was jeopardized when the Arab oil embargo placed New England at a comparative disadvantage in the price of oil and energy in general. New England is almost totally dependent on foreign sources for oil.

During March-April of 1975, Rhode Island Health Services Research, Inc., (SEARCH), conducted their triennial Health Interview (Household) Survey; a section of the survey contained questions on health insurance. Analysis of responses to the insurance questions indicated that nearly 25 percent of the currently unemployed lacked health insurance protection of any type as compared to four percent of the employed and five percent of those not in the labor force. The length of time without work also affected the level of health insurance coverage. Those who had been without work the longest were the least likely to be covered.

In the 12-month period prior to the survey, it was found that 10 percent of the total population had suffered a lapse in their health insurance coverage. However, persons who had been unemployed at some time during that year were almost three times more likely to have been without health insurance for some period during that time. Furthermore, the length of time without work and time without health insurance coverage were directly related.

The focus of this study is the effect of varying economic conditions on health service use, specifically utilization of community hospitals. The investigation extends over a six-year period (1970–1975) including a time of relative economic stability (1970–1972) and a time of increasing economic problems (1973–1975).

Selected patterns of hospital use

General patterns of community hospital use: 1970–1975: The most noticeable change in the pattern of hospital use was an almost steady decrease in the annual average days of stay. By the end of 1975 the overall average stay had been reduced by almost one full day over the beginning of the period, a reduction of almost ten percent.

The change in stay was the result of a relatively small increase in the absolute number of patient days (3 percent) interacting with a continuingly larger increase in the number of annual discharges (almost 13 percent over the study period). The fluctuation does not appear to be associated with variation in economic conditions at least at this level of analysis. The population of the State decreased over the six year period. However, the discharge and day rates per 10,000 population both increased and increased disproportionally to the general population change. The disproportional increase may be related to the aging of the smaller population.

It is generally observed that a reduction in utilization can occur when there is a marked decrease in the number of available beds. This generally is most commonly observed when hospital annual occupancy rises into the high eighty percent or the nineties. This situation did not occur in Rhode Island during the study period. There was a net increase of almost 12 percent in available beds. However, occupancy fluctuated over the time period in a random manner from a high of almost 84 percent to a low of 82 percent.

Patterns of community hospital use by age groups: 1970–1975: An analysis of hospital use change by population age group over the study period reveals no particular pattern that can be related to the economic downtrend subsequent to 1972.

Specifically, the measures of hospital use (discharges, patient days, and average length of stay) were examined over the study period among four age groups (under 15 years, 15–44, 45–64 and 65 and over). The data summarizing the trends are contained in Table 1.

In terms of discharges per 10,000 population, there was an average annual percent increase for all age groups except those under fifteen. While observation of a general trend among all age groups over the study period was possible, there was no consistent year-to-year pattern either among or within the groups.

In terms of patient days utilized by age groups the same general patterns as observed in discharges prevail: a decrease in the youngest age group, and increases in the older age groups (the 65 and over group remains almost unchanged over time in terms of days). While the pattern remained generally the same, the intensity varied; the youngest group experienced a sharper decrease in days than discharge rates, and the older groups experienced more modest increases in days than discharge rate. As a result of the change patterns in both discharge and day rates among population age groups, the average length of stay for all age groups decreased.

It is specifically reemphasized that while there was a reduction across

Table 1. Average annual percent of change in hospital use by age group

	Use measures		
Age group	Discharges/ 10,000 Pop.	Patient days/ 10,000	Average length of stay
< 15	−2.5%	−4.3%	−1.9%
15–44	+4.3	+1.8	−2.8
45–64	+3.9	+1.2	−2.8
65 <	+3.3	−0.2	−3.3

groups in the average time use of hospital services (as measured by average length of stay); the general trend appears to affect all age groups and the downward trend begins before the "recession" and does not sharply change during that period.

Patterns of community hospital use by expected principal source of payment: 1970–1975: Analysis of hospital use measures by categories of public and private expected principal source of payment categories (public, private, and other) indicates that in general:

(a) Public pay sources have increased more rapidly than private pay sources in terms of discharges compared to patient days. The end result of this pattern has been a proportionally greater reduction in the length of stay for public pay patients than private pay. The public pay patients, however, still continue to stay in the hospital for longer periods than the private pay patients.

(b) Within the public pay categories the non-Medicare payment sources have proportionally increased at a faster rate than other governmental payment programs. In brief, analysis of payment sources over time, as supported by data in Table 3, indicates that the Rhode Island economic downturn may have resulted in government programs absorbing an increasing share of the hospitalization costs. The data, however, at this level of analysis, do not indicate that there was

Table 2. Measures of community hospital use by percent of expected principal source of payment, 1970–1975

Source of payment	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*
			Discharges (Rate/10,000 Pop.)			
Public	37.4%	38.8%	38.9%	39.6%	40.7%	44.2%
(Medicare)	(24.6)	(24.5)	(24.5)	(25.5)	(27.6)	(29.6)
(Other Gov.)	(12.8)	(14.3)	(14.4)	(14.1)	(13.1)	(14.6)
Private	58.6	56.6	56.6	56.0	55.1	51.9
Other	4.0	4.6	4.0	4.4	4.1	3.8
			Patient days (Rate/10,000 Pop.)			
Public	48.6%	49.2%	48.8%	49.9%	51.6%	53.8%
(Medicare)	(37.2)	(36.5)	(36.1)	(37.4)	(40.0)	(41.5)
(Other Gov.)	(11.4)	(12.7)	(12.7)	(12.5)	(11.6)	(12.3)
Private	47.9	46.8	46.9	46.1	44.5	42.5
Other	3.5	4.0	4.3	4.0	3.9	3.7
			Average length of stay (Days)			
Public	12.64	12.01	12.05	11.94	11.60	10.89
Private	7.95	7.71	7.96	7.80	7.39	7.19
Other	8.51	8.11	9.18	8.61	8.50	8.33

a preclusion of hospitalization as a result of the economic trends. There appears to be an exchange of payment sources. The hospitalization cost was picked up by the governmental rather than the private payment sources. The varying patterns among use measures appear to reflect the general variation observed in previous analysis by age and socio-economic status (SES).

Patterns of community hospital use by socioeconomic status (SES) groups: 1972–1975 (Table 3): The following observations are made on the pattern of hospital use among SES groups.

(a) The relationship among all SES groups (high, middle, low, and poverty) on all use rate measures (discharges, days, and stay) remains constant across the period 1972–1975 in that there is a continual inverse relationship between SES and measures of use; the higher SES group is continually the lowest in terms of all use measures, whereas the lowest is continually the highest.

(b) While the patterns across time for all measures within SES vary randomly, there is an indication that there may be a use reduction occurring among the lower SES groups. Unfortunately, the time trend prior to the economic downturn is not long enough to determine if this variation is a result of the same factors discussed in the previous section analyzing use by age, or if the pattern is more directly relatable to the economic environment.

(c) While there is a variation within all groups over time between dis-

Table 3. Measures of community hospital use by socio-economic status (SES): 1972–1975

SES	1972	1973	1974	1975
	Discharges (Rate/10,000 Pop.)			
High	869.5	904.3	966.1	931.8
Middle	926.5	979.9	1,036.2	1,048.9
Low	1,057.5	1,067.7	1,150.3	1,258.8
Poverty	1,384.4	1,357.5	1,400.9	1,388.9
	Patient days (Rate/10,000 Pop.)			
High	8,041.7	8,227.2	8,524.3	7,998.1
Middle	8,779.4	9,162.1	9,301.5	9,066.3
Low	10,416.0	10,363.6	10,738.3	11,224.1
Poverty	14,073.1	13,743.2	13,759.3	13,080.5
	Average length of stay (Days)			
High	9.25	9.10	8.82	8.58
Middle	9.48	9.35	8.98	8.64
Low	9.85	9.71	9.33	8.92
Poverty	10.17	10.12	9.82	9.38

> charge and day use rates, the net result for all SES groups is a reduction of average length of stay.

Specifically, in terms of *discharge rates*, all SES groups experienced an increase in the average annual percent discharge rates. The poverty group experienced the least change (0.3) and the low group experienced the largest (6.0). In terms of average annual percent change in *days* the poverty group experienced the greatest reduction, the greatest increase.

Extensive analysis was also performed in the change of patient clinical characteristics by socio-economic status over time. Three measures of clinical characteristics were used. The first was the more traditional clustering by diagnostic categories. The second was a grouping developed by SEARCH based on the nature of admission status. The third was a clustering by type of medical care. This grouping was developed by the project's principal investigator through a grant from the W.K. Kellogg Foundation. While in general all three analyses indicate there had been a change over time from less complex to more complex hospitalized patients, no differences could be attributed to this change either by socioeconomic status or by time of change. There appeared to be a general pattern of change in hospitalization for the Rhode Island population in toto.

Because of the limited time trend, interpretation of the patterns in terms of a relationship to economic conditions is not quantifiable. At best, such interpretation must be speculative. On the surface, at the level of this present analysis, it would appear all SES groups are responding to varying factors in their change of hospital use. It cannot be discounted that at least one of these factors may be the economic situation. However, given the general trend beginning in 1970 in reducing hospital use, economic patterns alone probably cannot explain the trend of SES use observed between 1972–1975.

Summary and implications

The State of Rhode Island offered a viable situation in which to examine at least certain aspects of the Center's overall project purpose. During the early years of 1970, the State had a period of relative economic stability. However, in 1973 several local and national factors combined to depress the economy of the State. By 1975 the State's unemployment rate was estimated as 13.5 percent (the total United States unemployment was estimated at 8.5 percent). Further, by 1975 it was estimated that 25 percent of the unemployed and 10 percent of the total population had no health insurance coverage of any type. In addition to and partially stemming from the economic situation, the State was faced with a decreasing and aging population. The population that remained in the State appeared, however, to be longer lived, in that the State mortality rate has been decreasing.

While the State offered an almost "ideal" economic problem environment to investigate impact on hospital use, several factors present in the health care environment became confounding elements in the investigation. Specifically, since the late 1960's, there had been a strong positive cooperative effort to control hospital costs. Included in the spectrum of programs related to this effort were: Certificate-of-need and Prospective Reimbursement. In addition, various governmental and nongovernmental organizations instituted programs of hospital utilization review. Finally, in 1974 catastrophic health insurance legislation was introduced. As a result of varying impacts from these programs, hospital patterns of use began to change prior to the recession period (1973). Specifically, the average length of hospital stay began to decline. This decline occurred in a period of rising admission rates and patient days rates; however, days increased at a slower rate than admissions, producing a general net decrease in stay.

Within the State there has been a consistent inverse relationship between socioeconomic status level and hospital use. During the period of study the decline in average stay affected all socioeconomic groups. Since the trend began prior to the recession and did not significantly accelerate after the start of the recession, coupled with the increase in admission rates, the change in stay appeared not to be the result of economic barriers to hospitalization.

The pattern of hospital use by age groups showed similar patterns of use by SES groups in that the admission rates increased at a faster rate than patient day rates. The only age group exhibiting a significant reduction in both discharges and days were those individuals 15 years and younger. Subsequent analysis indicated this change was related to a major decrease in the tonsillectomy and adenoidectomy rate for this group. Further, the reduction was proportional among all SES group members of that age and the trend began prior to the recession.

The first indication of an impact of recession on hospital use was found in analyzing hospital patterns by expected principal source of payment. In general, it was observed that following the start of the economic downturn period governmental hospitalization payment programs began absorbing increasing proportions of inpatient episode costs.

Additional interrelated analyses of population SES status age, and expected principal source of payment gave some indications that the poverty group might be experiencing a rationing situation. However, no clear indication could be determined. While there were some general declines by the poverty group in certain categories, the general use rate at the end of the study continued to be the highest of the SES groups even though there had been a reduction over time.

Analyses of SES use patterns against various measures of medically-related characteristics indicated no clear trend that was directly relatable to the recession. However, there was evidence that there has been a change in the nature of the hospitalized patient. There has been a movement away from discretionary admissions, and a movement towards more complex patient mix. Such a pattern is generally found among all the SES groups.

In addition to an analysis of utilization during a period of inflation and recession, SEARCH was also charged with "assessing policy options to ameliorate the adverse health-related consequences of the economic downtrend" at least as observed through an analysis of hospital use.

As has been indicated previously, the results of the SEARCH hospitalization analysis revealed few if any "adverse health-related consequences." It was observed that patients hospitalized during the period of downtrend appeared to be more medically urgent, more complex in their medical configuration, perhaps more in need of hospitalization than those admitted prior to the downtrend. In brief, the findings indicated that there probably was no major "rationing" of hospital services during a recession period at least in the Rhode Island environment. As a result of the trends found, the question of policy options is moot in terms of the individual within the boundaries of the SEARCH study. However, it was observed that during the period of recession public payment sources picked up increasing proportions of hospitalization costs. Private health insurance/prepayment or self-pay were apparently not adequate for or available to the individual during the recession period. Costs of care were shifted to the public sector. The public resources appeared to be available within the Rhode Island environment to support such a shift. However, such resources might not be available or as adequate in other situations. Further, the qeustion remains unanswered as to how long could the public resources support such a shift before a rationing situation might evolve? The SEARCH study focused only on hospitalization, no information was available on ambulatory patterns of medical service use during the same time period. Such patterns could be affected by an economic downtrend. In addition, the study did not include an analysis of post hospital care and therefore possible changes in that area were unknown. While the U.S. medical care system is continually characterized as a "nonsystem," individual components do tend to react as part of a larger "system." Therefore, the *full* scope of medical services must be observed during varying economic conditions before it can be determined if there are adverse health-related consequences.

In final summary, subject to the limitations outlined above, no major adverse health-related consequences were observed in Rhode Island during a period of recession. However, the cost burden shifted to the public sector as a result of the economic situation was marked and could prove to be difficult to sustain over an extended period. Policy implications therefore must be considered in the context of public programs' ability to absorb hospital care needs in the absence of viable private options.

Access to ambulatory care and the U.S. economy

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Background and overview

Since the mid-1960s there has been a substantial public effort directed towards the objective of improving the equity of access to medical care in the United States. In particular, Medicaid and Medicare seek to eliminate financial barriers to the access to health care. Furthermore, there is widespread support for medical education and for programs directed at improved organization and availability of medical manpower that attempt to redress geographical inequities. Additional effort is focused on eliminating information barriers. Thus, for over a decade much of the health care policy in this country has been concerned with the equity of access to medical care.

Although recent studies of the access to health care services emphasize that the current situation is far from ideal, these studies indicate that the trends in several access indicators, such as the number of physician visits and health-adjusted physician utilization rates, are encouraging. This literature, however, adopts a long-run perspective and draws inferences on the basis of comparisons of data often ten years apart. Consequently, short-run patterns relating to the accessibility to health care services are often obscured.

Statement of problem and approach

In this study a short-run perspective is adopted and the focus is on the issue of access to ambulatory care during the period 1969 through 1975. Specifically, we have attempted to identify and evaluate the impact of the adverse changes in aggregate economic conditions on the access to primary care in terms of changes in appointment lags and waiting time, shifts in sources of care, number of physician encounters, and mix of diagnostic, preventive, therapeutic, and rehabilitative physician care by income class and source of payment. The primary objective of this study is to ascertain the impact of the 1974–75 inflation-recession on access: Have the secular trends in improved access been partially—or fully—reversed by the high rates of infla-

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tion and unemployment during this period? If so, have the low income and minority groups been predominately affected?

In order to answer these questions, we have reviewed the pertinent literature on patient access to ambulatory care, and undertaken various analyses of time-series and cross-sectional data. A multidimensional consideration of access to care provides the conceptual framework for the empirical analysis. Each of four dimensions captures a particular aspect of the delivery of ambulatory health care services. Indeed, the utilization of physicians' services, utilization relative to need, process measures, and indicators of patient satisfaction with care received, are all commonly accepted access measures, but they do not always offer the same implications. Therefore, this study considers all of these measures of access and subjects them to formal modelling based on unpublished data from the 1969–75 Health Surveys conducted by the National Center for Health Statistics, and the Medical Access Study, conducted in 1975 by the Center for Health Administration Studies and the National Opinion Research Center, both affiliated with the University of Chicago.

In the context of the research undertaken in this study, the following indicators were subjected to analysis: physician visits; physician visits relative to health status measures; whether or not the patient has a usual source of physicians' services; whether or not the patient has encountered one or more problems obtaining medical care; unmet needs reported by patients; the patient's choice of physician provider; patient waits in the physician's office; length of time the physician spent with the patient during a recent visit; and the delay between the time the patient made an appointment and the actual visit.

Viewed in its entirety, the evidence shows a definite link between the performance of the economy on the one hand and patient access to physicians' services on the other. However, the effects of the former on the latter are not dramatic. Certainly the inflation-recession of 1974–75 did *not* mean a total reversal of the gains in access realized during the preceding decade.

Summary of major findings

A first group of findings are evident from aggregate data. These results emerge rather quickly, without detailed cross-tabulations or multivariate analysis:

- During the 1974–75 inflation-recession, unemployment constituted a greater threat to low income families than did inflation. Inasmuch as the value of transfer payments, such as Medicaid and other public assistance programs, was essentially preserved in real terms, persons on fixed incomes were insulated from the erosion of purchasing power that often results from inflation. Meaningful differences among lower, intermediate, and higher budget families were not apparent from cost-of-living data. On the other hand, nonemployment income available through public programs only partly offsets income losses directly attributable to job loss. Furthermore, during the 1974–75 recession, there was a widespread loss of job-related health insurance which was greater for young, nonwhite, and female workers, groups which are heavily represented in the "disadvantaged" cohort.

- Although the mean number of physician visits crept upward from 1969 through 1975, during the same period health-status adjusted utilization rates either remained the same or manifested a downward trend, depending on the health status measure used. Thus, although the mean number of physician visits increased, the number of sick days increased at least as fast.
- During the period 1969 through 1975, there was a change in the choice of site of physician contact. The proportion of total visits occurring in hospital outpatient departments decreased during 1974–75. Furthermore there was a decrease in home visits as a percentage of total visits. On the basis of tabulations alone, it is difficult to attribute these changes to the performance of the economy. However, the regression analysis undertaken in this study establishes a relationship between patients' financial circumstances and their choice of site of ambulatory care.
- There is evidence that patient waiting time in physicians' offices in 1974–75 was about ten percent below 1971–73 levels. Mean appointment delays also fell in 1974–75 from 1973 levels, but compared with 1971, the 1974–75 mean is higher. The mean length-of-visit rose slightly from 1973, but considering the 1967–75 period as a whole, a distinct trend toward shorter visits is suggested.
- Comparisons between the employed and unemployed show the latter to be worse off in terms of several utilization, process and satisfaction dimensions of access. (These differences are substantiated by the regression analysis.) For example, our data indicate that unemployed persions have 34 percent more visits per capita than their employed counterparts. However, dividing visits by our two measures of current disability, the unemployed appear to have much lower levels of access to physicians' services.
- A comparison of the status of various dimensions of access between the first and fourth quarters of 1974 showed no meaningful changes in access over that year. By contrast, however, prices rose at double-digit rates throughout the year, and unemployment rates increased dramatically, especially in the fourth quarter.

Although highly aggregated data permitted analysis of the secular trends delineated above, they did not show sufficient cyclical variation to permit inferences relating to a more detailed perspective on the relationship between access to medical care and adverse economic conditions prevailing in 1974–75. Consequently, this study contains several multivariate models that serve as bases of additional analyses of several dimensions of access. Regression analyses resulted in findings regarding the utilization and need dimensions of access:

- Real per capita income exerts a strongly positive impact on utilization. The estimates of income elasticities are based on a time series and range from 0.4 to 1.3. These estimates tend to be higher than income elasticities obtained by others but these differences can be reconciled: The other, lower estimates are based on a cross-sectional analysis; the estimates in this study are based on a time series analysis. As a result, the identification of a substantial, positive elasticity reflecting the tendency to defer visits to physicians in the short- and intermediate-run is more easily detected over time. In conclusion, this study's finding of a rather high income elasticity implies that decreases in real per capita income, which occur in any recession, lead to reduced utilization.
- Both inflation and unemployment have adverse impacts on health status, and thus are significant indirect determinants of utilization. This study confirms Brenner's (1976) findings that inflation and unemployment adversely influence health status.
- Inflation has a negative direct effort on the number of physician's visits. In view of the previously discussed finding that inflation also causes restricted activity and bed disability days to increase and thereby has a positive indirect effect on physician utilization, the indirect and direct effects work against each other. This study concludes that the negative direct effect and the positive indirect effect essentially offset each other and result in a net effect of inflation equivalent to zero.
- Unemployment exerts a weakly positive direct effect on the utilization of physician services. This study finds that, holding other factors constant, an increase in the unemployment rate tends to increase the number of physician visits.
- Unemployment also exerts a positive indirect effect on the utilization of physician services. The results presented in this study imply that the stress-related effects of unemployment lead to increased numbers of disability and restricted activity days. The combined impact of both the direct and indirect effects of unemployment on access is positive, reflecting the propensity for the two effects to reinforce each other.

Cross-sectional data comprised the basis for the analysis of process and satisfaction dimensions of access. In general, the study concluded that the type of ambulatory medical care that individuals receive partially reflects prevailing economic conditions. More specific findings emerged from the cross-sectional regression analysis of patient's usual source of care, problems obtaining medical care, and self-perceived unmet health care needs:

- In terms of the presence of problems obtaining medical care and unmet needs, the long-term unemployed have worse access than their short-term unemployed counterparts—although the differences between the long- and short-term unemployed and between the unemployed and employed are small.
- Family income consistently demonstrates negative effects on these process and satisfaction measures. Clearly the poor are worse off. Combining job loss with family income loss results in a substantial loss in access.
- Educational attainment shows at most a small impact on access. In general, the findings indicate that education does not affect the relationship between income and employment on the one hand and access to physicians' services on the other.

In general, the results based on regression analysis of summary process and satisfaction measures of access imply that the adverse effects on access should be counted in any itemization of the costs of unemployment. Yet, because unemployment and income explain only a small portion of the variation in these dependent variables, there is no reason to believe that if the economy were to achieve full employment all access problems would be solved.

Discriminant analysis of provider choice led to further implications regarding process and satisfaction dimensions of access. In particular, this study considered patients' choices of site of care. Such choices have important implications for access. Continuity of care is less likely when the patient relies on hospital-based sources of ambulatory care as opposed to office-based care. There is also evidence that patient waits are longer in hospital settings as are appointment delays for patients who make appointments. The analysis in this study assessed patient choice among two types of office-based and two types of hospital-based providers of ambulatory care services. Furthermore, this analysis provided a useful perspective for considering the sources of the growth in the relative importance of hospital outpatient clinics and emergency rooms. Some of the important results from this analysis are the following:

- There is substantial variation in the behavioral relationships among the four samples analyzed: retirees; female heads of household; married men; and married women. Retirees are aged 65 and over; ages of all others range from 25 to 64. In general, the choices of retirees and female household heads are associated more closely with financial variables than are the choices of married persons. This result may be attributed to two factors. First, retiree and female heads are far poorer on the average. The underlying relationships may be non-linear with "economic" variables playing a more dominant role in the lower ranges.

Second, the variants in the basic model used in the retiree and female head analysis are comparatively simple. The variant of the model applied to married persons may be too complex. From the vantage point of policy, the results emphasize the danger of generalizing from the "average" behavior of several heterogeneous groups. Nonemployed female household heads are more likely, holding other factors constant, to use hospital sources of ambulatory care. On the contrary, nonemployment of married men has no impact on their own provider choices, but their wives do tend to rely more heavily on hospital sources of ambulatory care.

- Upon comparing the impact of two kinds of nonearned income, transitory-residual income (temporary transfer payments, such as unemployment compensation and public assistance, plus unexplained income from other sources) is found to be a more important determinant of provider choice than income.

The relationship between nonearned income and provider choice is far clearer for retirees and female heads of households probably because these groups are typically far more dependent on income from nonemployment sources. Based on this finding, this analysis establishes a link between transfer payment programs, such as Social Security and Aid to Families with Dependent Children, and the provider choice of dimension of access.

Although the role of inflation-recession is principally emphasized in this brief review of major findings, another access determinant certainly merits mention. The provider choice results consistently show a direct relationship between physician availability and the kind of provider chosen by the patient. For example, if one type of physician is a rarity in a particular community, patients will substitute other physicians for the scarce variety. Moreover, when physicians are scarce in relation to population, patient dependence in hospital-based sources of ambulatory care, including emergency rooms, rises substantially. Thus, this finding implies that governmental efforts to improve the spatial distribution of physicians have beneficial impacts on access.

Additional multivariate analysis of time spent by patients waiting for the doctor, the length-of-visit, and delays between the date an appointment is made and the visit revealed that, in general, all three variables are responsive to family income. In particular, as income rises, patient waiting and appointment delays tend to fall and length-of-visit is likely to rise. Although private health insurance was reported to reduce waiting times, the results indicated that it had no impact on visit length. Overall, the results pertaining to patient waiting time are more informative than the findings from the length-of-visit and appointment delay analysis. The principal results of the waiting time analysis are recounted below:

- Persons with lower opportunity wages (or cost of waiting) typically wait longer than persons with higher opportunity wages. This pattern is particularly evident in analyses of female heads of households and the results are sufficiently robust to permit the inference that job loss leads to increased patient waits (for persons in this demographic cohort).
- Insured persons tend to wait less than noninsured persons. This trend is also particularly evident in analyses of female heads of households and retirees. Again it is possible to infer that to the extent unemployment leads to the loss of health insurance, access is adversely affected.

A further consideration of physician availability revealed that waiting is lower in the communities with high physician-population ratios.

In conclusion, the findings enumerated above emerged from a study of the impact of the 1974–75 inflation-recession on access to ambulatory care. In an effort to advance the state of the art of research on access, this study subjected a multidimensional definition of access to modelling efforts and derived some interesting, new information which has relevant policy implications.

Health insurance loss due to unemployment: descriptive and behavioral analyses

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Purpose of the study

Approximately 80 percent of non-elderly persons in the United States have some kind of private health insurance. The vast majority of this health insurance is purchased through an employer in order to take advantage of substantial group discounts on the "price" of health insurance. While this linkage of health insurance to employment is convenient and inexpensive as long as one remains employed, it is not so convenient and inexpensive when one becomes unemployed. Even though many employment-related group health insurance plans provide for conversion to individually-purchased policies, the cost disadvantage is significant. Individual or non-group health insurance costs 70–80 percent more than otherwise equivalent group health insurance, presumably due to the greater marketing and administrative costs of such policies. In addition, the unemployed individual must pay the entire amount of the premium whereas an employer typically pays a large share if not all of it. Finally, individual premiums are customarily paid quarterly, rather than monthly as is the norm for group health insurance, further compounding the financial burden at time of payment. Of course, unemployed workers and their families have also suffered "large," short-term reductions in current income and typically must limit severely their standard of living, often having to make difficult choices among "necessities" such as food, housing, clothing, education, and medical care.

When the 1974–75 recession, the steepest economic decline since the Great Depression, bottomed out in May 1975, 9.2 percent of workers were unemployed—a total of 8.4 million workers. For many of them the loss of employment meant not only the loss of income but also the loss of job-related group health insurance. The seeming enormity of the health insurance problem prompted Congressional interest in the possibility of extending health insurance protection to the unemployed, a step that would have been the most significant expansion of federally-sponsored medical benefits in the last decade. Not since the advent of Medicaid in 1965 had Congress moved to extend health benefits to as large a group as the unemployed. At least four

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Congressional committees held public hearings on the issue, receiving supportive testimony from a host of interested parties (e.g., the AFL–CIO, UAW, Blue Cross Association, American Medical Association and American Hospital Association). A variety of bills were introduced that would have extended "emergency" health insurance benefits to the unemployed. However, the Ford Administration strongly opposed such legislation and the proposals died in committee as the recession ended and the recovery ensued.

Congressional interest apparently flagged as the economy recovered, but the "problem" of health insurance loss due to unemployment has not disappeared, although it persists at a somewhat lower level. The purpose of this study is to advance our understanding of health insurance loss by the unemployed and to provide a more complete factual basis for responding to it in the future, either as an on-going problem or as it becomes aggravated by subsequent recession.

It is often useful to divide analytic questions into two categories, (1) normative and (2) positive. Normative questions relate to "what should be" whereas positive questions concern "what is." In the context of this study the key normative question is whether or not the loss of health insurance by the unemployed warrants government intervention. Is it desirable that the government extend health insurance protection to the unemployed; or, equivalently, do the social and economic benefits of such a government program exceed the costs? Unfortunately, this crucial normative question cannot be easily answered; although we attempt to illuminate the various considerations bearing upon it, the present state of the art does not permit even a tentative conclusion. The positive questions are much more readily answered and receive the greatest attention in this study.

The positive questions concern the extent, kind, and distribution of health insurance lost by the unemployed; the extent to which existing public programs (e.g., Medicaid) mitigate the consequences of private health insurance loss; the behavioral determinants of health insurance loss; and the like. These are questions about what actually happens, or as a corollary, what might happen if various emergency health insurance alternatives were enacted. How many persons would be affected? What would the cost be? The answers to these relatively simply factual questions may help to shape the answer to the more fundamental normative questions. Furthermore, if the normative question is answered in the affirmative, the factual data can facilitate the design and orderly introduction of an appropriate policy response.

Empirical studies

We use both cross-tabular and multivariate procedures to investigate the impact of unemployment on the demand for and access to health insurance.

While the cross-tabular studies give a more descriptive appraisal of the problem—i.e., the extent, kind, and distribution of health insurance lost—the multivariate studies give a more behavioral one—i.e., an understanding of the underlying causal factors. Both have important implications for the development of public policy in this area, but they answer fundamentally different questions, so should not be viewed as substitutes for one another but rather as complements.

Cross-tabular or descriptive investigation

We have three separate descriptive studies. (1) We tabulate private health insurance coverage parameters—e.g., covered services, deductibles and maximum payments, as well as the simple existence of health insurance—by employment status (employed or unemployed) in order to make inferences about the extent and kind of health insurance lost due to unemployment. The health insurance coverages are tabulated from four different data sources, each of which is a national probability sample. (2) We investigate the distribution of health insurance losses due to unemployment. We do this by tabulating demographic-specific health insurance coverage rates for the employed and unemployed and taking the difference between them as an estimate for the impact of unemployment. In this way we determine the characteristics of those persons who are most (or least) likely to lose health insurance due to loss of employment. (3) We investigate whether and how well Medicaid substitutes for private health insurance lost due to unemployment. We do this, in part, by tabulating the sources of payment for family health care, including Medicaid, by employment status of the household head.

The leading findings from these descriptive studies may be summarized as follows:

- Our most recent data source indicates that private health insurance enrollment rates among the unemployed are 29 to 35 percentage points lower than enrollment rates among employed persons. If we divide these figures by the percent of employed persons who have health insurance, we find that 35 to 39 percent of those who had health insurance when employed lost it when they became unemployed.
- We estimate that during the 1974-75 recession, between 875,000 and 1,071,000 households had lost health insurance at any one time due to the unemployment of the household head.
- The level of health insurance among the unemployed has increased sharply during the 1970s.
- No more than 10-14 percent of workers losing group health insurance have substituted individual nongroup health insurance.

- The "quality" of health insurance lost by the unemployed is somewhat lower but not too much different from the average.
- The health insurance losses are not evenly distributed across the various demographic and socioeconomic groups. The probability of health insurance loss is greatest for young workers, nonwhite workers, unmarried workers, female workers, workers with large families, low income workers, workers living in central cities, workers not living in the North Central region, and workers in selected occupations and industries. The probability of health insurance loss did not vary significantly with education or health status.
- Households in which the spouse works have a seven percentage point lower probability of health insurance loss due to unemployment of the head. Dividing this figure by the percentage probability of health insurance loss in the larger population, we estimate that the probability of losing health insurance is reduced by 27 percent.
- Not surprisingly, the probability of health insurance loss varies directly with the duration of unemployment. The "structurally" unemployed are much more likely to lose health insurance.
- Between 19 and 35 percent of the unemployed without private health insurance receive health care from Medicaid and related sources. Another 10 to 18 percent receive at least some health care from sources like Veterans' Administration and workmen's compensation. Between 51 and 71 percent of the unemployed without private health insurance have no public health insurance alternatives whatsoever.
- The unemployed who are not eligible for Medicaid pay 60 percent of health care costs out-of-pocket, compared to 14 percent for Medicaid-eligibles. Furthermore, the health care expenditures by the Medicaid-eligible unemployed is over twice as much as for those not eligible.
- The low-income employed have even less health insurance protection than do the unemployed, above or below the poverty level.

Multivariate or behavioral investigation

Recall that multivariate procedures were used to analyze the loss of health insurance due to unemployment and to isolate those factors that, in addition to employment itself, influence the magnitude of health insurance coverage.

We began by examining the theoretic context of health insurance loss by the unemployed. Since the theory of health insurance has received much attention in recent years we did not pursue a fully comprehensive discussion of the underlying theoretic model. Instead we gave special attention to certain theoretic considerations that are especially relevant to this study. (1) We suggested that previous analyses of the effect of income on the demand for health insurance do not generalize to the large and transitory income reductions associated with loss of employment and that it was necessary to estimate a transitory income elasticity (or effect) for assessing the impact of job loss, and associated income loss, on the demand for health insurance. (2) We also suggested that continuation of group health insurance by the former employer is significant and that loss of group health insurance by the unemployed is not fully arbitrary or capricious but rather that it reflects underlying economic factors. That is, we suggested that unemployed workers continue to demand health insurance from their previous employer and that these unemployed worker demands partly determine the extent of continuation. While this prospect seemed counterintuitive, it has become more credible given recent understanding of the importance of temporary layoffs in the theory of the firm.

We used data from 1972, 1974 and 1975–76 to estimate group and nongroup health insurance demand relationships. In most cases the health insurance demands were estimated separately for the employed and the unemployed to allow for interaction between work status and the other independent variables. The estimation strongly supported our hypothesis that unemployed workers continue to demand group health insurance from their previous employer. In particular, continuation of group health insurance during unemployment was shown to be systematically (and significantly) related to the economic variables—income and price—as well as to the other demographic characteristics.

The quantitative importance of continuation is, however, another matter. We found that only a small fraction—between 5 and 25 percent—of actual health insurance loss by the unemployed could be explained by our modeling effort. After considering several alternative explanations, we concluded that many unemployed workers simply do not have the opportunity to continue group health insurance from their previous employer. Either the employer is insensitive to the demands for continuation of health insurance during unemployment, or the employed workers themselves are insensitive to the prospect of unemployment and fail to transmit their "true" demands by negotiating continuation of group health insurance during unemployment as part of the terms of employment. Thus, the level of health insurance among the unemployed may be inefficiently too low (or suboptimal), assuming that the employer's group price in fact represents the social cost of continuing the insurance. That is, we attribute much of the unemployment-related reduction in health insurance to a health insurance market failure. The reduction seems to be largely an artifact of the predominant work-group institutional mechanism for financing health insurance in our country and may bear little or no relation to underlying demand and cost cosiderations.

We also saw that an employed worker's likelihood of having health insurance depends substantially upon the industry of employment, even after controlling for demographic and other relevant characteristics of the worker. That is, the provision of health insurance to the employed also depends importantly upon institutional arrangements unrelated to demand variation. In addition, we found that a self-employed worker is much less likely to have group health insurance than an otherwise similar nonself-employed worker, and that a female or nonwhite head of household is less likely to have group health insurance than an otherwise similar male or white head of household. We also found that, contrary to expectations, those with "poor" health have a lesser likelihood of having health insurance than those with average health. This finding may reflect institutional barriers to the acquisition of health insurance by such persons—so-called uninsurables or high-risk persons. That is, a health insurance market for this population may not exist.

We estimate that the expected value of benefits from health insurance is about ten percent less for the unemployed than for otherwise similar employed persons. This supports our conclusion from the descriptive work that the "quality" of health insurance lost due to unemployment is not too much different from the average.

We have also briefly explored—as digression—the impact of unemployment on the demand for health care. The results were surprising. Contrary to empirical tradition, we found that health insurance does not lead to an increase in the utilization of health care services by the general population. However, we found that health insurance increases health care expense by $485 per year in households where the head is unemployed. Although it is premature to draw conclusions until alternative explanations can be investigated and the analysis can be replicated from other sources, the results have a variety of interesting implications. First, the "moral hazard" associated with health insurance does not appear to influence the health care demands of the larger working population. Apparently, families with the head employed have sufficient income to purchase the desired level of health services and health insurance does not bias toward over-use. Previous findings suggesting the contrary may reflect failure to control for employment status. Second, the finding that health insurance is important for the unemployed tends to indicate that inability to borrow against future income—a financial market failure—is the cause of the reduced health care expenditure by the unemployed not having health insurance and that such reduction is inefficient. The reader is reminded, however, that such inference remains substantially speculative at this stage. Nevertheless, we believe that our findings demand a re-examination of the now-conventional wisdom that health insurance leads to over-utilization of health services. Our results are more nearly consistent with the view that it corrects under-utilization.

Finally, we have used our results from analysis of the 1975-76 data to simulate cyclical variation in the extent of health insurance lost due to unemployment. Health insurance loss by the unemployed had been perceived as being merely a recessionary problem. However, the simulation demonstrates that the problem persists, albeit at a lower level, even in time of economic well-being. In particular, the results suggest that the extent of health insurance loss during the 1974-75 recession was no more than twice as large as it would be during typical non-recessionary years.

Public policy implications

We also examine our findings more explicitly in the context of the public policy concerns surrounding the loss of health insurance by the unemployed. In particular, we explore the implications of various alternatives for extending health insurance to the unemployed. We begin with a discussion of the various "emergency" health insurance programs that were proposed as federal legislation at the time of the 1974-75 recession and set out some of the criteria that should be used in evaluating them. While we do not attempt a rigorous evaluation of the proposals, we use our empirical findings to formulate some of the policy implications presented by the various proposals.

In addition, we recommend a non-governmental alternative that may solve much or most of the health insurance loss problem. In particular, we suggest that insurers and employers permit continuation of group health insurance from a former employer so long as the unemployed worker pays the true social cost of doing so. This cost includes the full health insurance premium amount paid by the employer to the insurer (including any portion formerly paid by the employer) plus any costs borne by the employer in continuing the health insurance— e.g., the costs of collecting the premium and providing assistance with claims. If continuation were offered on this basis, neither the employer nor the insurer would be made "worse off" and yet the unemployed workers who could purchase health insurance at something approaching the group rate—assuming that the employer cost are minimal—would be made "better off." Our empirical findings (discussed above) suggest that such a social innovation would reduce health insurance loss by the unemployed to at least one-fourth of its present magnitude.

The impact of rising unemployment on the loss of job-related health insurance coverage

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Introduction

The Congress became quite concerned in 1975 with the impact of rising unemployment on the loss of job-related health insurance coverage. In 1974, as many as 70 percent of the full time workers were estimated to be employed in jobs that provided health benefits through group health insurance plans. Thus, when unemployment almost doubled in the space of a year, between May, 1974 and May, 1975, substantial concern was expressed over the probable extent of the loss of health insurance coverage by laid off workers.

Surprisingly, very little was known about the extent of job-related health insurance, and even less about the impact of rising unemployment on the loss of such insurance protection. The presumption was that unemployment automatically meant the loss of job-related health insurance coverage. This notion on loss of health insurance coverage disregards the actual market practices of the parties of job-related health plans. Eligibility for health insurance is frequently earned in one period, and the insurance coverage provided at a later time. Furthermore, reemployment does not always imply immediate eligibility for, or availability of, health insurance. Thus a key question arises, what is the impact of unemployment on the loss of job-related health insurance coverage during sharp downswings in employment? The purpose of this study was to address that question.

The major difficulty in tackling this problem is the lack of data on job-related health insurance coverage by employment status. The limited information is inadequate to estimate the impact of unemployment on the loss of job-related health insurance. The study attempts to fill this void by examining Taft-Hartley Jointly Trusteed Health and Welfare Funds which have a labor force participation of over ten million workers.

The study estimates the extent of the problem by examining eligibility provisions of job-related health insurance plans, and the unemployment rates and durations of unemployment of workers in different industries.

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Specifically, estimates of (1) the average job-related health insurance experience of unemployed workers implied by the interaction between the eligibility requirements of job-related health plans for different sets of workers and their unemployment experience during the 1974-75 recession; and (2) the relationship between the loss of job-related health insurance and unemployment rates are obtained.

This summary is divided into six sections. The first section describes the characteristics of the data base and the sample used in the study, followed by a discussion of the relevant eligibility provisions of the job-related health plans in the second section. The third section identifies the determinants of loss of job-related health insurance derived from eligibility provisions of health plans and published unemployment data. These determinants are used to determine the extent of loss of job-related health insurance by industry and region in the fourth section on eligibility provision analysis. The fifth section establishes the relationship between changes in unemployment and the extent of loss of job-related health insurance. The last section enumerates some of the caveats in this study and concludes with a brief summary of findings and a discussion of some policy implications of these findings.

The data base: Taft-Hartley Health and Welfare Funds

The data on eligibility povisions of job-related health insurance plans used in this study were obtained from Taft-Hartley Jointly Trusteed Health and Welfare Funds that are members of the International Foundation of Employment Benefit Plans, Inc., hereafter referred to as International Foundation (IF). Analysis was limited to Taft-Hartley health plans because eligibility data were not available from other groups of health plans. These funds are created through collective bargaining between unions and employers and are administered under the direction of union and management trustees in accordance with the Taft-Hartley Act. In most cases, these health plans are multi-employer plans and cover the jurisdiction of a particular union. The employer participants in these plans are small firms or small units of large firms. The employment of workers covered by these plans is, in most cases, characterized by hourly work rather than salaried full-time work. This segment of the labor force, it might be argued, is likely to be more susceptible to cyclical variations in the economy than other groups of workers. Workers covered by Taft-Hartley funds, hereafter referred to as Taft-Hartley workers (THW), include about 22 percent of the labor force population whose health insurance is affected by unemployment. THW are, therefore, an important and policy-relevant labor force group for examining the extent of the impact of rising unemployment on the loss of job-related health insurance.[1]

Taft-Hartley funds are found almost exclusively in five major industry groups; namely, Manufacturing, Transportation, Retail Trade, Service, and Construction. The distribution by industry of all THW is shown in Table 1.

Table 1. Distribution of Taft-Hartley Workers and International Foundation Workers by Industry, 1975
(Percentage in parentheses; number of workers in thousands)

Nomenclature	*Manufacturing*	*Transportation*	*Retail Trade*	*Services*	*Construction*	*Total*
Taft-Hartley Workers (THW)	973 (9.4)	1,990 (19.1)	1,557 (15.2)	1,680 (16.1)	4,106 (40.2)	10,405 (100)
International Foundation Workers	326 (7.9)	830 (20.1)	797 (19.3)	545 (13.2)	1,631 (39.5)	4,130 (100)

The data for this study have been taken in major part from a ten percent random sample of the Taft-Hartley Jointly Trusteed Health Funds, who are members of the International Foundation of Employee Benefit Plans, Inc. The IF sample was shown to be statistically representative of the entire population of Taft-Hartley health funds. The study sample of funds was subdivided, based on statistical tests of equivalence of eligibility provisions into groups by industry and region. The subdivision was adopted to obtain estimates which would permit industry and region comparisons.

Eligibility provisions in these funds are job-related and are based on the amount of employment. Worker eligibility for coverage is, therefore, crucially affected by adverse economic conditions and rising unemployment. Rules generally are designed to ensure that regular employees and union members under normal conditions of employment in the industry can maintain their health insurance coverage through seasonal or usual market-related swings in employment. The eligibility provisions vary widely across funds and are complicated by factors such as local employment patterns, special employment circumstances of different types of workers and attitudes of trustees towards financial viability. Eligibility provisions of a fund specify separate sets of employment based rules to cover initial eligibilty, reinstatement of elgibility, continuation of eligibility, and maintenance of eligibility.

A crucial step in this study was to develop a procedure to summarize eligibility provisions in composite quantitative variables that reflect all features of such provisions affecting a worker's ability to obtain and retain job-related health insurance. The process of reducing eligibility provisions

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[1] See Table 4.1 of McCaffree, K.M., Malhotra, S., and Glandon, G.L., "The Impact of Rising Unemployment on the Loss of Job-Related Health Insurance Coverage," Battelle Human Affairs Research Centers, May, 1977. The sources of all data in this summary have been documented in detail in this report, and are not otherwise referred to hereafter.

into composite variables which can be used to estimate the impact of rising unemployment on health insurance coverage requires an understanding of the nature of the eligibility provisions and the variations in the provisions that have been adopted by funds. A brief description of what these provisions are and how they affect a worker's ability to obtain or retain job-related health insurance, especially during periods of rising unemployment, is provided below.

Description of eligibility provisions

The eligibility provisions[2] have been divided into subgroups based on the similarity of their impact on a worker's ability to obtain or retain health insurance coverage. Each provision is discussed under a separate subhead.

The Eligibility Determination System. An important part of the eligibility rules is the frequency with which a worker's employment record is examined in order to determine his eligibility status for health insurance. An essential feature of this provision is the "Determination Period."[3] The length of the determination period affects a worker at the time of both initial eligibility and termination of eligibility. The length of the determination period is usually one or three months, but in some funds it is as long as 12 months. The longer the determination period, the larger the variation in what a worker may stand to gain or lose depending upon the timing of his hiring or layoff date within the determination period. On the average, workers can be expected to take longer to obtain and can retain job-related health insurance longer among funds which have longer determination periods. Consequently, for any given pattern of employment, seasonal or otherwise, the choice of the determination dates and the period of determination could crucially affect the timing and the rate at which workers within a fund obtain or lose their job-related health insurance upon being hired or laid off. Hence, employment in a current period earns job-related health insurance coverage for the worker in some subsequent period.

Hours of work required and eligibility periods. Plan provisions set forth the number of hours required to be worked during some specified period, referred to as the eligibility period, to qualify for health insurance coverage.

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[2] The exact definition of terms used in the discussion of eligibility provisions is provided in a footnote whenever a new technical term is introduced into the discussion.

[3] A *determination period* is the period between two determination dates. A determination date is the date on which a worker's employment record is examined to determine his eligibility status for receiving health insurance benefits.

Different numbers of hours required to be worked and different lengths of eligibility periods are usually specified for obtaining initial eligibilty, for maintaining eligibility, and for reinstatement of eligibility.[4]

In general, longer eligibility periods mean that a worker can obtain or maintain his job-related health insurance in spite of short spells of slack work. Slack work spells are more likely to be compensated by a greater number of hours worked during high employment spells within long eligibility periods. Since periods for obtaining eligibility are generally substantially longer than those for maintaining eligibility, it means that a worker with irregular employment may be able to obtain initial eligibility, but to mantain eligibility he would require relatively regular, albeit somewhat fewer hours of employment.

Multiple eligibility provisions. In addition to provisions based on employment in the current eligibility period, alternative provisions based on employment in previous periods are provided by some funds to help a worker maintain job-related health insurance through seasonal variations in employment. These provisions are mostly found in the construction industry. Funds use one of two systems for multiple eligibility provisions, the hour bank and the castback system.[5] These systems have been designed to provide health insurance eligibility during seasonal slack work periods. The difference between the two systems is the way in which employment history over extended eligibility periods is accounted for in determining eligibility.

Hour bank systems are constrained by a limit on the maximum number of hours that can be held in the reserve account. These vary considerably across funds and may go as high as 1600 or more hours. The important consideration, however, may not be the maximum hours ceiling but the hours required to maintain eligibility and the average hours worked during high employment seasons. The important feature of the castback system is the length of time over which employment is considered for determining eligibility for health insurance. This period of time varies across funds and usually extends up to one year. The longer time span is usually accompanied by multiple provisions with rising required hours over an increasing length of each eligibility period such as 300 hours in three months, 600 hours in six months, and 1200 hours in a year.

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[4] *Reinstatement of eligibility provisions* apply to previously eligible workers whose break in job-related health insurance coverage does not exceed some specified period.

[5] The *hour bank system* involves crediting all hours worked to an individual account and then drawing out the hours necessary to satisfy requirements for maintaining eligibility. A variation of the system puts only the hours or some proportion of the hours worked in excess of those required to maintain current eligibility into the hour bank. The *castback system* considers workers' employment over longer periods than the current eligibility period for the purpose of maintaining eligibility for health insurance coverage.

Entry and exit lags.[a] Provisions on entry and exit lags affect the commencement and termination of workers' health insurance coverage. A major purpose of these lags is administrative, i.e., to allow enough time to elapse to receive late employment reports from employers to reduce expensive retrospective adjustments of eligibility rolls. These lags also, however, affect how quickly a worker can obtain or lose his health insurance.

Exit lags on the average are longer than entry lags. These lags are usually one month long, but in some cases can be as long as three months. Exit lags enable regular workers to maintain their health benefits in spite of temporary spells of unemployment. Entry lags, on the other hand, delay workers from regaining job-related health insurance after reemployment. Since entry lags are usually one or two months, they can have a considerable impact on the average duration for which workers might lose their health insurance coverage during periods of high unemployment.

Determinants of loss of job-related health insurance coverage

The loss of job-related health insurance among workers is determined by two major factors, (i) eligibility provisions which define the amount of employment required to obtain, maintain, and retain health insurance coverage; and (ii) unemployment experience of workers, which defines the number of unemployed and the durations of their unemployment. This section describes how these factors were converted into variables used to derive the desired estimates.

Provision-Based-Durations. Eligibility provisions may be many and complicated, but what concerns a worker is: (a) how long it will take him to obtain initial eligibility for health insurance; (b) having lost eligibility, how long will it take him to reinstate his eligibility; (c) how long can he retain job-related health insurance after being laid off; and (d) how much employment must he have to maintain his eligibility. Implicit in the many eligibility provisions are answers to these questions. Those answers are the important determinants of the loss of job-related health insurance during periods of unemployment, and are referred to as provision-based-durations (PBD). PBD are defined as follows:

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[a] The *entry lag* is the period between the determination date when a worker is found to be eligible for health insurance benefits and the date on which his health insurance coverage commences. The *exit lag* is the period between the determination date when a worker is found to be ineligible for health insurance benefits and the date on which health insurance coverage is terminated.

(a) *Initial Eligibility Duration* (IED)— The average number of weeks of work required to satisfy employment requirements to obtain health insurance coverage;

(b) *Reinstatement of Eligibility Duration* (RED)—The average number of weeks of work required to satisfy employment requirements to reinstate lost health insurance coverage;

(c) *Retention of Eligibility Duration* (RTED—The period beyond the date of layoff or termination of employment for which a worker with average employment can retain health insurance coverage;

(d) *Maintenance of Eligibility Duration* (MED)—The sum of the average number of weeks of work required to satisfy the employment requirements to maintain eligibility for health insurance coverage and length of the entry lag.

These composite measures of eligibility provisions in terms of duration make them amenable to quantitative estimation. Since workers in a fund can be expected to have varying amounts of employment, PBD were defined based on the average number of hours worked in a year by all workers in the industry.

These PBD vary across funds because of the differences in the eligibility provisions of funds. Variations in PBD within a fund occur because the eligibility of workers is determined at discrete intervals, i.e., on specified determination dates. Thus the timing of the date during a determination period when a worker is hired or laid off becomes crucial to the size of PBD. The maximum and minimum values of PBD that workers encounter within a fund are defined by the length of the determination period.

PBD in weeks were computed for each fund in the sample by assuming that the probability of workers being hired or laid off is the same for every week in a determination period. PBD of a fund are weighted averages of the length of PBD that an individual worker in a fund may encounter for different timings of every hire or layoff date possible within the determination period. PBD for each of the funds in the sample were averaged across funds within each of the eight industry groups. The estimates of the average PBD by eight industry groups are presented in Table 2.

The differential impact of these average PBD on unemployed workers across industries is best shown in an example of the loss of job-related health insurance experience of a worker who incurs 16 weeks of unemployment. His experience under the different industry PBD is summarized in Table 3.

A construction worker who has 16 weeks of unemployment would not lose his health insurance coverage during his entire period of employment, but would be without coverage after regaining employment for some ten to 14 weeks depending upon his regional location. Furthermore, the loss of

Table 2. Computed average provision-based-durations of health and welfare funds by industry groups (in weeks; standard error in parentheses)

Provision-Based-Durations	Industry								
						Construction			
	Manufacturing	Transportation	Retail Trade	Service	Construction	Northeast	North Central	West	South
Initial Eligibility Duration (IED)	9.5 (9.2)	12.5 (8.5)	9.0 (4.8)	8.5 (5.1)	23.5	29.5 (14.4)	25.0 (8.6)	17.5 (5.8)	23.5 (7.5)
Reinstatement of Eligibility Duration (RED)	4.5 (3.4)	8.0 (7.3)	7.5 (5.4)	4.0 (3.7)	18.0	25.0 (15.3)	18.5 (8.0)	12.5 (7.2)	16.0 (8.9)
Retention of Eligibility Duration (RTED)	7.5 (4.8)	6.0 (3.8)	4.5 (1.9)	5.5 (2.2)	22.5	31.0 (19.3)	20.5 (11.2)	18.5 (8.6)	21.5 (9.4)
Maintenance of Eligibility Duration (MED)	3.5 (2.3)	3.0 (2.2)	3.5 (2.2)	2.5 (1.8)	13.0	17.5 (11.1)	13.0 (5.0)	8.5 (3.7)	14.5 (8.2)

health insurance coverage for such a construction worker may occur anywhere from five to 15 weeks after commencement of his employment. A worker with similar unemployment from the non-construction industries would lose his job-related health insurance after four to eight weeks of unemployment depending upon his industry. He would not regain health insurance coverage until four to eight weeks after reemployment. Furthermore, short lay-offs can be incurred without loss of health insurance, one to four weeks in the non-construction industries and seven to 13 weeks in the construction industry group.

The total period of loss of health insurance coverage varies considerably across industry groups, from a low of ten weeks in the construction industry in the West to a high of 19 weeks in retail trade. It should be noted that in the case of retail trade and transportation the duration of loss of health insurance coverage is longer than the unemployment duration. For unemployment durations of less than 16 weeks, such a situation could also exist in other industries.

The PBD were used with the distribution of unemployment durations to determine the impact of unemployment on the loss of job-related health insurance.

Distribution of unemployment durations. The information on the number and distribution of unemployed workers by length of their unemployment durations is available in the form of proportions of unemployed workers by

Table 3. Health insurance impacts of average PBD on a worker with 16 weeks of unemployment, by industry

Industry Group	Period of unemployment with coverage (RED)	Period of unemployment that can be incurred without a break in coverage (RTED-MED)	Period of unemployment without coverage (16-RTED)	Period of employment without coverage If RTED >16 then (16+ RED-RTED); otherwise RED	Total period of loss of coverage
Manufacturing	7.5	4.0	8.5	4.5	13.0
Transportation	6.0	3.0	10.0	8.0	18.0
Retail Trade	4.5	1.0	11.5	7.5	19.0
Service	5.5	3.0	10.5	4.0	14.5
Construction:					
Northeast	31.0	13.0	0	10.0	10.0
North Central	20.5	7.5	0	14.0	14.0
West	18.5	10.0	0	10.0	10.0
South	21.5	7.0	0	10.5	10.5

industry who experience unemployment for less than five weeks, five to 14 weeks, 15 to 26 weeks, and 27 weeks and more, but only on a national basis. Since the impact estimates require the use of state data, predicting equations were estimated to obtain state level information from the national data. These proportions are referred to and used as the distribution of unemployment duration variables.

Eligibility provision analysis

The impact of rising unemployment on loss of job-related health insurance by industry and region was estimated in terms of three variables. These impact variables were defined as (1) the percentage of the unemployed or laid off workers who lose their health insurance coverage (PULC); (2) the average duration of the loss of coverage incurred by those workers (ADLC); and (3) the number of person-weeks of health insurance loss incurred by those workers (PWLC), which is the combined impact of the preceding two variables.

The crucial factors that determine whether a worker loses job-related health insurance coverage or not and for how long are the PBD of his health and welfare fund and his unemployment duration. By using average PBD for industry groups and distribution of unemployment duration variables by industry and state, we estimated the impact variables by industry and region.

Percentage of unemployed who lose health insurance coverage (PULC). The PULC can be determined by excluding the proportion of workers who because of their short duration of unemployment do not lose their job-related health insurance. The period for which a worker can be unemployed without losing his health insurance is given by the difference in RTED and MED. The percentage of unemployed workers who are unemployed for (RTED-MED) weeks or less can be obtained from the distribution of unemployment duration variables. The remaining percentage of unemployed workers lose their health insurance coverage.

Average duration of loss of health insurance coverage (ADLC). The average duration for which a worker loses health insurance coverage depends upon the length of unemployment duration and the provision-based-durations. Each worker who experiences unemployment duration longer than (RTED-MED) weeks is likely to lose his health insurance. The number of weeks of loss of health insurance for any given unemployment duration can be obtained by subtracting RTED from unemployment duration and then adding

RED or IED. Whether RED or IED is added depends upon the length of the loss of health insurance coverage. ADLC was calculated by obtaining a weighted average of the periods of loss of health insurance coverage implied by different unemployment durations in weeks. The weights are the proportion of unemployed workers experiencing different lengths of unemployment.

Separate estimates of ADLC were obtained for each state by industry for 1974 and 1975. These were then converted into four regional estimates for each industry by taking a weighted average across states in a region.

Person-weeks of loss of health insurance coverage (PWLC). The extent of the problem associated with the impact of the 1974–75 recession on job-related health insurance coverage among workers covered under plans of Taft-Hartley funds is determined by the magnitude of the combined impact of PULC and ADLC. In particular, PWLC was estimated for each industry and region by computing the product of PULC, ADLC, and number of unemployed workers, and describes the extent of the job-related health insurance coverage problem experienced by International Foundation workers in 1974 and 1975.

Results of the impact variables analysis. Separate PULC, ADLC, and PWLC estimates were obtained for each state by industry and year—1974 and 1975. These were then converted into four regional estimates for each industry by taking a weighted average across states in a census region. The unemployment rate (UMET) and impact variable estimated by industry, region and year are presented in Table 4.

The differences in the estimates of the impact variables across industries and regions depends upon unemployment rates and the average provision-based-durations. Higher unemployment rates generally imply larger impact estimates, primarily because, on the average, lengths of unemployment of workers increase as unemployment rises. The variation across industry results from differences in both the average PBD and the unemployment rates. The regional variables for non-construction industries, however, arise only from the difference in unemployment rates because the average PBD are the same across regions. In the case of construction, the PBD as well as the unemployment rates vary across regions.

PULC Estimates. The results shown in Table 4 indicate that the percentage of unemployed who lose their coverage is much higher among non-construction industries than construction. This is a reflection of differences in eligibility provisions. Provisions in construction are relatively more extensive in providing coverage during periods of slack work because of the nature of employment in the construction industry. Over 90 percent of the unemployed workers in retail trade lost their health insurance coverage during 1974 and 1975 in spite of relatively lower levels of unemployment rates in the industry. The less extensive coverage in this industry can be seen in the average PBD for retail trade shown in Table 2. It has the shortest RTED and the longest MED among all industry groups, resulting in a situation where a worker cannot, on the average, be unemployed for more than a week without losing his health insurance coverage. However, in the service and manufacturing industries unemployment may continue for three and four weeks, respectively, without a break in health insurance coverage. By contrast, in the case of the construction industry in the Northeast, a period of unemployment can be as long as 13.5 weeks before a worker loses his health insurance coverage. Consequently PULC estimates in the construc-

Table 4. Unemployment rates and estimates of impact variables by industry and region, 1974 and 1975

Rate/ Variable/ Region	*Manufacturing*		*Retail Trade*		*Service*		*Construction*		*All International Foundation Workers*	
	1974	*1975*	*1974*	*1975*	*1974*	*1975*	*1974*	*1975*	*1974*	*1975*
Northeast										
UMRT (percent) . . .	6.2	9.5	3.0	4.0	2.9	4.4	15.8	23.9	8.7	13.0
PULC (percent) . . .	69.6	76.5	91.6	93.1	71.9	78.4	37.5	49.6	46.5	56.7
ADLC (weeks)	16.0	19.3	17.2	20.0	14.5	18.2	23.9	26.7	21.0	24.4
PWLC (weeks)* . . .	49	99	111	178	85	178	622	1389	867	1843
North Central										
UMRT (percent) . . .	4.2	8.8	1.9	3.6	1.9	3.4	11.6	17.5	7.7	12.0
PULC (percent) . . .	65.8	75.4	89.8	92.6	69.7	78.4	47.8	57.3	51.4	61.1
ADLC (weeks)	14.5	18.6	14.8	19.1	13.3	17.4	20.4	23.3	19.3	22.4
PWLC (weeks)*	15	47	50	127	20	51	568	1171	654	1388
West										
UMRT (percent) . . .	5.7	8.6	3.4	4.2	4.3	5.7	13.2	18.3	8.2	11.3
PULC (percent) . . .	69.3	75.5	92.5	93.3	78.9	84.9	46.6	3	56.5	62.9
ADLC (weeks)	16.1	19.4	19.3	20.8	18.8	23.9	19.9	22.8	19.1	22.1
PWLC (weeks)*	112	220	145	198	81	147	510	941	848	1508
South										
UMRT (percent) . . .	3.7	6.9	1.4	2.8	2.0	3.2	5.4	11.6	4.0	8.5
PULC (percent) . . .	62.5	72.1	88.5	91.6	68.3	73.3	39.5	54.9	46.5	59.7
ADLC (weeks)	13.0	17.2	13.1	17.4	12.3	15.1	13.2	17.1	13.1	17.1
PWLC (weeks)*	13	37	19	53	4	8	77	302	113	400
United States										
UMRT (percent) . . .	5.4	8.6	2.6	3.8	3.0	4.4	12.1	18.4	7.6	11.6
PULC (percent)	68.4	75.4	91.4	92.9	73.8	79.9	43.2	53.6	50.9	59.9
ADLC (weeks)	15.7	19.1	17.3	19.8	15.8	19.8	20.8	23.6	19.4	22.4
PWLC (weeks)*	189	403	325	556	190	384	1777	3803	2481	5146

* Represents thousands of weeks.

tion industry are relatively low and range from 37.5 in the Northeast to 57.3 in the North Central in 1975.

The relatively more pronounced regional variations in PULC estimates among construction industry reflects the differences in PBD and unemployment rates across regions. Although in 1975 the unemployment rates in the Northeast, North Central, West and South were 23.9, 17.5, 18.3, and 11.6, the percentage of unemployed who lost their health benefits were 49.6, 57.3, 54.3, and 54.9, respectively. Higher unemployment rates in the Northeast and the lower percentages of workers losing their benefits reflect the relatively larger number of weeks (13.5) beyond the date of layoff that the workers can maintain their benefits without a break in eligibility for health insurance coverage. Similarly, funds in the West can maintain benefits for unemployed workers without a break in eligibility for ten weeks as compared to approximately seven weeks in the North Central region and South. This advantage is reflected in the relatively lower percentage of unemployed workers who lost their health benefits in the West than in the South even though the West experienced a relatively higher unemployment rate.

The variation of PULC estimates across 1974 and 1975 show that increases in the unemployment rate are positively correlated to increases in PULC estimates. This relationship is more evident in the manufacturing and construction industries.

ADLC Estimates. The variations in estimates of ADLC presented in Table 4 show a substantially different pattern than the PULC estimates across industries and regions. Although the ADLC increased in all industry groups from 1974 to 1975, unemployed workers in the construction industry experienced the longest duration of loss of health insurance coverage, 20.3 weeks in 1974 and 23.6 weeks in 1975. The major part of this difference stems from the fact that IED and RED of construction industry groups is much longer than in other industries. The ADLC estimates for the non-construction industries were all within .7 weeks of each other in 1975. The similarity in magnitude of ADLC estimates across non-construction industries is mostly due to the similarity in both the length of IED and RED of these industries. (See Table 2)

Unemployment rates also play a significant role in determining the magnitude of ADLC in an industry. For instance, a comparison of ADLC estimates of the construction industry in the South and the West showed that ADLC was about six weeks shorter in the South in spite of shorter IED and RED in the West. This can only be explained by the seven percentage point lower unemployment rate in the South.

The PBD presented in Table 2 show that the funds where workers can keep their health insurance coverage longest beyond the date of layoff are also, on the average, the funds where workers have to wait the longest to regain or obtain initial eligibility for health insurance coverage. Such arrangements result in a smaller percentage of workers who are laid-off to lose their health insurance but for long periods of time. They implicitly also provide benefits to workers with relatively regular employment at the cost of ineligibility for workers with less stable employment.[7] The impact of this practice can most easily be seen in the estimates of PULC and ADLC in the construction industry. For example, the construction industry in the Northeast had the lowest estimate of PULC but also had the highest estimate of ADLC. In the other region and industry classes, differences between the two estimates are somewhat less pronounced but nevertheless consistent with the hypothesis.

PWLC Estimates. Over five million person-weeks of loss of health insurance coverage were estimated to have been incurred by 3.3 million IFW from the construction, manufacturing, retail trade and service industries in 1975, the year of relatively high unemployment. In 1974 under relatively better economic conditions, the loss in person-weeks of health insurance was estimated to be only 2.5 million. Thus an increase in the aggregate unemployment rate of these industries by slightly more than 50 percent (from rates of 7.6 percent to 11.6 percent) more than doubled the person-weeks of loss of health insurance incurred by IFW.

The IFW are representative of workers covered by all Taft-Hartley funds, which were estimated to cover 10.4 million workers.[8] All estimates obtained in this study are, therefore, directly applicable to all Taft-Hartley workers (THW) except the absolute number of the estimated PWLC, since it depends upon the size of the labor force for which it is estimated. PWLC estimates for all THW were derived directly by weighting the PWLC estimates for the IFW by the ratio of the size of THW to the size of IFW and shown in Table 5.

These estimates indicate that over 13 million person-weeks of health insurance coverage were lost in 1975 by an estimated 8.4 million workers covered by Taft-Hartley health and welfare funds, from industries other than transportation. Seven percent of the THW were estimated to have lost their health insurance coverage and, on the average, each remained

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[7] Trust funds receive employer contributions for health and welfare plans for every hour worked by a worker irrespective of whether he is eligible or not. It is quite possible, given the eligibility requirements, that a worker may work for 500 to 1000 hours a year without qualifying for health insurance coverage. In establishing its eligibility provisions, a trust is implicitly determining a transfer of benefits from contributions of one set of workers to another set of workers.

[8] The impact variable estimates could not be derived for lack of employment data for the transportation industry, which employs two million of these 10.4 million workers.

Table 5. Estimated PWLC for the Taft-Hartley worker populations by industry (in thousands of weeks)

Characteristic	Industry								All Taft-Hartley Workers	
	Manufacturing		Retail Trade		Services		Construction			
	1974	1975	1974	1975	1974	1975	1974	1975	1974	1975
PWLC	564	1206	648	1102	588	1170	4551	9746	6351	13,244

without health insurance coverage for about five months during 1975. This was an increase of more than 6.5 million person-weeks of health insurance loss over the 1974 experience of THW. The increment in PWLC results from, on the average, an additional three weeks in ADLC and a rise of nearly 20 percent in the PULC of THW.

These estimates suggest that increased unemployment between 1974 and 1975 caused the average incidence of the loss of job-related health insurance coverage to rise by 3.6 percent of all THW. The estimated average duration of loss was about 22 weeks. The increase in the average incidence of health insurance loss as defined above in terms of the proportion of all workers varies considerably across industries. The average incidence in the construction industry was 5.3 percent of all workers while in manufacturing, retail trade and service industries, it was 3.5, 1.6, and 1.8 percent of all workers respectively. The construction industry exhibited not only the highest average incidence of health insurance loss, but also the longest average duration of loss of coverage, some 24 weeks or about four weeks longer than the other industries.

It should be recalled that PWLC in terms of the percentage of the unemployed shows the opposite levels of incidence between construction and non-construction industries. The conclusion that can be drawn from these findings is that health plans of construction industry funds are better suited to provision of health insurance coverage to larger proportions of unemployed workers than health plans of the non-construction industries, but unemployment rates in the construction industry were so much higher than the other industries that higher proportions of construction labor force lost their job-related health insurance coverage during 1974 and 1975 than non-construction labor force.

Changes in unemployment rates and impact variable estimates

Implicit in the impact variable estimates of 1974 and 1975 described above is a relationship between variations in the estimates and in the unemployment rates. This relationship captures the responsiveness of PULC and ADLC to changes in the unemployment rates and are referred to as elasticity estimates. Impact variables elasticity is defined as a ratio of the percentage change in impact variable to the percentage change in unemployment rate. Elasticity estimates were obtained by estimating regression equations with the impact variable as the dependent variable and unemployment rate as the dependent variable using industry specific state date.

Statistical testing of hypotheses confirmed that the impact variable elasticity estimates; (i) for each of the seven industries are distinct and different; and (ii) were not different for 1974 and 1975. These results imply that the impact of similar changes in unemployment rate on PULC and ADLC varies across industry groups and that these elasticities are invariant across average levels of unemployment observed in 1974 and 1975. Accordingly, the estimated elasticities by industry are shown in Table 6.

Table 6. Elasticity estimates of impact variables by industry group

Industry group	*Elasticity estimates (ε_p)*	*Elasticity estimates (ε_A)*	*Elasticity estimates (ε_w)*
Manufacturing	.21	.38	1.59
Retail Trade	.05	.42	1.47
Service	.14	.43	1.57
Construction:			
Northeast	.65	.28	1.93
North Central	.43	.27	1.70
West	.47	.34	1.81
South	.46	.38	1.84

The relationship between PULC and changes in unemployment is positive and reflects the positive association between unemployment rates and duration of unemployment. There is a considerable variation across industries. ε_P varies from .05 in retail trade to .65 in construction in the Northeast. In the case of all industries, the elasticity estimates show that as the unemployment rate rises, the proportion of the unemployed who lose their health insurance becomes larger.

The relative change in the percent of the unemployed losing health insurance coverage in response to higher unemployment can be expected to be more pronounced in the construction industry than in the other industries. Among construction groups there is a marked difference between the Northeast and the other regions. The elasticity estimate for the Northeast is about 40 percent higher than the elasticity estimates of other regions.

The ε_A estimates exhibit a relatively less distinct difference among industry groups than is the case for ε_P estimates. The estimates of ε_A are slightly higher for the non-construction industries than for construction groups. In the case of all seven industry groups, the ε_A estimates are less than .5, and show that a ten percent increase in the unemployment rate leads to increases of only 2.7 to 4.3 percent in ADLC depending upon the industry. The increase in ADLC results, of course, from increases in the unemployment durations of workers that accompany higher unemployment rates.

The PWLC elasticity estimates are, obviously, greater than one. By definition of PWLC a one percent increase in unemployment rate translates into a one percent increase in PWLC directly and an additional increase through its impact PULC and ADLC. The resultant total impact is greater than one by the amount of $\xi_P + \xi_A$. The elasticity estimates imply that a ten percent increase in the unemployment rate will result in an increase between 15 percent and 19 percent in the total PWLC, depending upon the industry. The impact of unemployment rate on PWLC is felt both because of the larger size of the unemployed work force and because of the increased percentage of workers losing their health insurance coverage for relatively longer average durations.

Construction industry groups are the most sensitive to changes in unemployment rates. Equivalent percentage increases in non-construction and construction industry unemployment rates are likely to result in approximately a 20 percent higher proportional response in construction industry groups than non-construction industry groups. These differences between construction and non-construction industries appear to suggest that funds with eligibility provisions that provide greater coverage during workers' unemployment periods are also the ones which are likely to experience relatively more adverse impact during periods of rising unemployment. The elasticity estimates presented in Table 6 imply that impacts of rising unemployment are likely to be most severe in the construction industry in the Northeast and least severe in retail trade.

Conclusion

Before summarizing the findings of this study, an important caveat in the study should be described. The employment of THW which is characterized by lack of steady full-time work introduces considerations of under-employment, i.e., workers finding less work than they would be willing to do. Under-employment implies, for the purposes of this study, that some workers may be employed, but not work enough to maintain their eligibility for health insurance. But, throughout this study, the considerations of under-employment had to be disregarded because data on workers by extent of their employment were not available. The eligibility provision analysis model is based on the experience of an average worker in a particular industry. Workers losing their employment were assumed to have had average industry employment experience, i.e., they had worked for an average number of hours in the year for that industry prior to their unemployment. The use of the U. S. Department of Labor definition of employment in the analysis can be expected to introduce a proportion of underemployed workers in the employed group of workers. Some of these workers are not likely to have had sufficient employment to obtain or maintain health insurance coverage. Thus, the extent of the loss of health insurance coverage obtained in this study are based on the number of unemployed workers and disregards employed workers without coverage. The downward bias is likely to maintain their eligibility and on being laid off, had no reserve account of past employment to be used to continue coverage. The downward bias is, however, likely to have minimally affected the increase in the loss of job-related health insurance between 1974 and 1975 or the analysis that relates impact estimates to changes in unemployment rates.

In summary, the study of the loss of job-related health insurance coverage among 19 million Taft-Hartley workers during the 1974–1975 recession shows that:

1. Employment in the current period provides them with health insurance coverage in a subsequent period for a significant number of workers in the U. S. labor force covered by job-related health insurance.
   Consequently:
   (a) workers with short spells of unemployment do not lose their health insurance;
   (b) the period of unemployment does not coincide with the period of loss of health insurance coverage;
   (c) the duration of unemployment is an important determinant of when the loss of health insurance coverage will occur; and
   (d) for given unemployment these impacts vary by industry, and, in the case of the construction industry, they also vary by region.
2. Eligibility provisions for job-related health insurance are an important determinant of the loss of health insurance during periods of high unemployment. Eligibility provisions:
   (a) depend upon the nature of local employment in the industry;
   (b) are designed to meet the normal conditions of employment in the industry and region; and
   (c) favor workers with steady employment.
3. An increase in unemployment of THW from 7.6 percent to 11.6 percent between 1974 and 1975 caused the average incidence of the loss of job-related health insurance coverage to rise by 3.6 percent of all 10.4 million THW. The estimated average duration of loss was 22.4 weeks or a total of 7 million person-weeks of coverage was lost. Construction workers among the THW were most severely affected.
4. Loss of health insurance coverage is very sensitive to increases in unemployment. A 10 percent increase in the unemployment rate resulted in an increase in the person-weeks of lost health insurance

coverage of unemployed workers between 15 to 19 percent, depending upon the industry.

Finally, a few comments on what the findings of this study suggest regarding appropriate policies to address the problem of loss of job-related health insurance during periods of recession. First, the diversity and complexity of the existing private job-related health insurance plans confound the use of simple and direct public programs to help workers affected by worsening economic conditions. Clearly, proposals to pay for health benefits for those on unemployment compensation overlook the fact that the periods of unemployment and periods of loss of job-related health insurance are not the same. Second, government payments for health benefits of unemployed workers during periods of high unemployment is likely to create incentives for the curtailment of current privately available job-related health insurance coverage during periods of unemployment. Such a result would increase the size of the government burden much beyond the estimates of loss of job-related health insurance obtained in this study. This is not to imply that the government ought to do nothing. National Health Insurance, for instance, would make this problem a moot issue. Since the country is still far from adoption of a comprehensive national health insurance, the government role could be one of facilitating the existing job-related health insurance institutions by sharing the additional costs of providing coverage to those who with these institutions lose their health insurance or, alternatively, encouraging some system of supplemental insurance.

The first can be readily achieved by health and welfare funds through alteration of their eligibility provisions. Providing health coverage to workers for additional periods or to additional workers who are not currently eligible will increase health insurance costs either to a trust fund or to an employer. A cost sharing system among trust funds, employers and the government for these additional costs may be a fruitful option to examine. The second, although not readily achievable, is nonetheless a more permanent and perhaps more fair solution to the problem. It attacks the root of the problem, which stems from the fact that health insurance elgiibility provisions for most jobs have been designed for normal industry employment patterns and the usual ups and downs in business activity in the relevant labor market area. An unanticipated prolonged decline in employment results in the ineligibility of workers who are usually protected by job-related health insurance. The problem, therefore, is one of uncertainty associated with business activity.

The solution to the problem of uncertainty may lie in a supplemental insurance scheme. A supplemental insurance plan could be designed to provide protection to regularly eligible workers against loss of health insurance benefits during periods of unforeseen and prolonged employment. Many employers, and certainly health and welfare funds, in some sense, are currently pooling the risk of unexpected and large health care costs among workers and their dependents. A supplemental insurance plan would cover the risk of prolonged adverse economic conditions by spreading its costs over a long period and across many employers and many health and welfare trust funds from different occupations and regions through marginally small contributions at all times. Contribution rates could be experienced-rated along the lines of unemployment compensation to avoid individual funds transferring the burden to the supplement insurance plan. Such a system would provide trust funds and employer benefit programs with the option of a trade-off between current level of benefits and the security of continued benefits for their eligible guarantee and support may be crucial to initiate such a scheme and to ensure its financial solvency at least during its initial years.

Public finance: impact of national economic conditions on health care of the poor

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Slowdowns in business activity associated with national efforts at stabilization strain the fiscal condition of state governments. Increased unemployment and the simultaneous decline in personal income reduce the growth of tax revenues, and concurrently, raise demand for many kinds of welfare support and other state supplied services. In a severe or prolonged recession, revenue collections may be insufficient to fund the increased demand for existing programs. With very few exceptions, the principal one being New York, states are prohibited by constitutional or legislative mandate from using debt financing to fund operating expenditures. Thus, current year deficits must be eliminated by using surplus funds from prior years, raising taxes, or cutting program expenditures. Most likely, some combination of the three is utilized to resolve the problem.

The degree of strain felt by a given state during a recession differs considerably because of the varying impacts that a shift in national economic conditions can have upon a state's economy. Recessions initially affect the construction and durable goods industries, as businesses and individuals postpone major purchases when their pessimism about the future increases. As the recession is prolonged, industries supplying nondurables and services begin to feel a more substantial impact. Since the distribution of industries across states is by no means uniform, states with concentrations of durable goods producers experience an earlier and more severe reduction in employment and income in any recession.

Examined here is the way in which health and welfare programs have been affected as states experiencing different levels of strain take actions to balance their budgets. Have health and welfare programs been given preferred status and exempted from budgetary reductions? If cuts are made in these areas, are the reductions only a last resort after other programs have been trimmed more severely? Have any of these programs been expanded to meet the increased needs of those unemployed by the recession? How is the fate of these programs related to the degree of strain the state is experiencing? Particular attention is paid to the Medicaid program, which in most

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states consumes the highest proportion of funds devoted to social welfare.

Before presenting information on the impact of the recent recession on the states' fiscal positions, some background discussion of significant changes in states' fiscal structure and in the economy since 1970 is in order. These changes probably exacerbated the impact of the '74–75 recession and also made it unique in terms of the variance in experience across states.

The early seventies marked a turnabout in the fiscal affairs of most state governments. Prior to 1971, states typically incurred general fund deficits in meeting current obligations. Given constitutional and legislative provisions against borrowing, these deficits were eliminated by successive rounds of tax increases and internal borrowing in the form of underfinancing various social insurance trust funds. The trust funds which supported activities such as employee pensions, veteran benefits, and road construction usually had large surpluses.

This turnabout was due in part to the introduction of general revenue sharing which transferred $1.7 billion that year from the federal government to the states. An additional $3.4 billion was given to general purpose local governments. It also reflected the short run benefits states experience during periods of inflation and sustained economic growth. Two of the principal revenue producers for state governments are sales taxes and income taxes on both personal and corporate income. The proceeds from these taxes, which accounted for over three quarters of all state tax revenues during the seventies, increase with inflation as a fixed rate structure is applied to a growing base. In some states, the growth is accentuated because the income tax has a progressive rate structure which takes higher percentages as nominal incomes rise.

While inflation accelerates the growth of state tax collections, several factors insure that such growth is not immediately translated into increased expenditures. First, there is some rigidity in the appropriations process which inhibits facile upward adjustment of expenditures. Appropriation levels are fixed by legislative enactment and generally there is a lag between an unexpected increase in revenues and lgislative action to commit the additional funds. Secondly, the cost of most goods and services purchased by the state government does not rise as rapidly as the general price level. The bulk of state expenditures are for the wages of state employees, which are fixed by law or contract for specified periods. Direct purchases from private markets where prices have increased generally represent a much smaller fraction of the state budgets. An important exception is the Medicaid program which provides services purchased exclusively from private providers.

Following a period of higher than expected growth in revenues, pressures develop both to increase expenditures and to lower tax rates. State employees lobby for higher wages to catch up with inflation. Local governments seek additional assistance to cope with the increased costs. Interest groups lobby for new programs to serve their needs. Taxpayers press for reduced tax burdens. Legislatures and Governors respond positively to these pressures since satisfying each of them is politically advantageous and the presence of an excessive surplus would be a political liability.

When a recession follows this sequence of accelerated revenue growth, increased expenditure growth and tax reductions, the same rigidities which caused the sluggish response to the higher revenues can strain the state's fiscal position. Expenditures continue to grow at rates determined prior to the recession's onset while revenues decline due to the recession. In fact, expenditures can be expected to increase somewhat faster because of the additional demand for welfare services by the unemployed. Additional reductions in tax collections resulting from the cuts enacted during more prosperous periods can further exacerbate the situation.

These movements in revenues, expenditures, and tax rates are illustrated in Table 1. During the recession in 1971, revenue growth lagged behind expenditure growth and states enacted a whopping $5 billion in tax increases. The introduction of revenue sharing in 1972 dramatically reversed the situation with revenues growing faster and continuing to do so in 1973 as inflation and improved economic conditions benefited state government. By 1974, expenditure adjustments were sufficient to push the growth in expenditures beyond that of revenues. States also responded to these "good" times by reducing taxes for two consecutive years. With the recession beginning in late 1974, the gap between the growth of revenues and expenditures widened and states began increasing taxes.

The pattern in 1975 was unique because the effects of inflation ordinarily are greatly reduced during a recession. However, in 1975 despite extensive unemployment and sharply curtailed economic activity, prices continued to rise at a 9 percent rate. The pressure from these continued price increases probably contributed to the growth of expenditures as interest groups sought funds to maintain programs in real terms. In particular, public employees

Table 1. Changes in state revenues and expenditures

	Revenues	*Expenditures*	
	Percentage Change From Previous Year	*Percentage Change From Previous Year*	*Projected Revenue from Adjustments of Tax Rates (in Billions)*
1971	**9.3**	**16.2**	**5.0**
1972	**15.5**	**10.5**	**.87**
1973	**15.6**	**8.8**	**−.50**
1974	**8.4**	**11.2**	**−.35**
1975	**10.2**	**15.2**	**1.6**

Source: U.S. Department of Commerce, Bureau of the Census, "State Government Finance", Selected Issues for years 1971-1974; National Governors' Conference "State Fiscal Conditions," processed, December 1975 for 1975 figures which are based on a sample of 37 states; and Tax Foundation *Tax Review*, Selected Issues.

demanded catch-up raises to restore their purchasing power to earlier levels. The inflation also resulted in revenues being higher than they would have been expected in a recession of this severity. However, some of the increase is illusory. States using progressive income taxes collect too much revenue through their withholding systems in the first year of a recession. This happens because many persons are able to work only part of the year because of the recession while the taxes withheld are based on annualizing each pay period's earnings which are higher because of inflation. With actual annual earnings falling short of the projected level, states will then have to refund the excess tax receipts the following year.

There is considerable variance in the fiscal strain experienced by states during a recession. The severity of the strain will depend on the recession's impact on each state's private economy and the responsiveness of each state's revenues and expenditures to the shift in economic conditions.

In adjusting to the impact of the 1974–75 recession, state governments generally attempted to maintain existing health and welfare programs, but have rarely expanded them in response to possible increases in need or demand assoicated with the recession. With the reduction in revenue growth, the maintenance of health and welfare programs has been achieved at the expense of other services, primarily education, transportation, and capital expenditures. Reductions in the latter two areas reflect not only the recession but other factors affecting their normal revenue sources. The energy crisis and restricted automobile usage cut fuel tax revenues which are generally earmarked for and the only source of funding transportation programs. Capital projects, normally financed through long-term debt, were curtailed in all areas by the disruption in the bond markets stemming from the possible default on bond payments by New York City. The reduced rates of growth in transportation and capital expenditures may merely reflect the lag in adjusting to new financing methods after such major institutional changes. Thus, the shift in expenditures to health and welfare programs may indicate a preference for them only vis-a-vis education. Even here, that conclusion is weakened by the fact that elementary and secondary education is primarily the responsibility of local government; the state governments in reality, have just transferred the problem of raising sufficient funds or cutting programs to the local level.

Some sensitivity to the needs of persons affected by the recession was displayed in the adjustments made to the cash assistance programs. In some of the states which had significant increases in the numbers jobless due to the recession, the eligibility criteria and benefit levels were liberalized. These actions were strongly related to the fiscal condition of the states occurring mostly among the moderate strain group. Most of the severely strained states also seemed to recognize the needs of individuals made jobless and at least maintained current cash assistance programs at previous levels. Significantly, most reductions in either benefits or eligibility occurred in the no strain states.

The widespread cuts in state Medicaid programs which occurred simultaneously with the recession appears to be largely coincidental. The presence or absence of a cutback was not related to the degree of fiscal strain a state experienced. Rather the cutbacks seem to reflect a basic concern over the open-endedness of Medicaid's demand for funds and are attempts to moderate future increases in program costs. States seem to be responding to a fundamental long run question: What is the level and type of care that should be provided through the Medicaid program? Indeed the causative factor behind the sudden increase in the number of states reducing their Medicaid program may have been the rapid inflation of health care prices following the removal of price controls in April 1974. Medicaid expenditures began then to increase precipitously again after several years of restrained growth. The lucrative Federal matching provision and unrealistic forecasts of utilization probably induced many states to enter the Medicaid program initially without serious consideration of what their total commitment would be. Now that states have realized the extent of the program's demand, they are asking themselves if they can afford to maintain it at almost any price.

Expenditures on non-welfare health programs appeared at least to remain constant in real terms. The larger than average increases in expenditures for such programs was merely reflective of the higher inflation taking place in the health care sector. Unlike other state services, price increases for health resources are probably felt rather quickly by state governments since the health resources are relatively mobile and the state exerts little influence over the total market. Because of the restrictions on Medicaid eligibility, it would be conceivable that other health programs might be expanded in a recession to take care of other needy persons. If any such expansions did take place, they were apparently minimal and were not observed in this investigation.

The actions of state governments in the recent period suggest that they regarded the recession as a transitory event. If possible, programs are operated as designed, reflecting pre-recession preferences. The strict budget constraint does require cutbacks in some instance. However, little effort takes place to modify programs and budgets to meet needs generated by the recession.

Inflation, unemployment and Medicaid

The Medicaid program, which began as an unheralded companion to Medicare with the purpose of providing medical assistance to welfare recipients, has far outstripped Medicare in controversy over its growing expenditures.

From $2.3 billion expended in 1967, they reached $12.1 billion by 1975. While the growth over these nine years represents a 23 percent average annual rate, a considerable portion of it occurred in the earlier years as additional states initiated the program and the numbers of participants rapidly expanded. Beginning in 1971, the growth in expenditures moderated somewhat so that the average rate of increase was 15 percent through 1974. However, fiscal 1975 expenditures jumped 24 percent, renewing concern over the need to control total expenditures.

Medicaid expenditures are strongly affected by the exogenous forces of unemployment and inflation. The size of its client population, recipients of public assistance and the medically indigent, varies with the level of unemployment. Continuing inflation in health care costs is also a problem for Medicaid since the services it delivers are purchased in the general market for health services. Increased unemployment and inflation may have been the principal causes behind the recent upsurge in expenditures. The severe recession experienced during fiscal 1975 added significantly to the number of welfare recipients and thus to Medicaid eligibles. In addition, fiscal 1975 witnessed a rapid acceleration in health care prices following the removal of price controls in April 1974.

Several states, partly because of budgetary pressure caused by the recession, have planned or already implemented a variety of measures to curb expenditures. While cost containment is a legitimate program design objective, a thorough understanding of the causes of the expenditure increases would precede any structural reforms. Because the policy prescriptions differ depending upon how much recession, inflation, or other factors have affected Medicaid expenditures, we examined the recent experience of a sample of 18 states to ascertain:

(1) to what extent recent increases in expenditures have been a cyclical phenomenon related to the recession and a sign that Medicaid is fulfilling its function as an in-kind transfer program; and

(2) to what extent recent increases in expenditures have been related to the rapid growth of prices of health care and an indication that Medicaid expenditure problems are only symptomatic of broader problems in the health care market.

Business cycle influences on Medcaid are related primarily to changes in the level of unemployment and underemployment. As both increase, the accompanying decline in income qualifies more families for the program. Depressed economic conditions also limit the opportunities of those already in the program, thereby reducing the "normal" rate of attrition. Though Medicaid expenditures increase because of these additional eligibles, the increase is probably not proportional. These new eligibles may behave differently in terms of the services and providers they use.

Persons becoming eligible because of recent unemployment may incur below average Medicaid expenditures because they are healthier due to a history of better medical care. Or, their expenditures may be lower because unfamiliarity with program procedures inhibits their access to care and leads to postponement of needed services. Alternatively, other factors may tend to increase average expenditures for these new eligibles. If they have had employer-sponsored comprehensive insurance, they may have learned to expect and demand a wide range of health services or they may require more service if the experience of being unemployed induces any real or psychological illnesses. Many of these persons may have established relationships with physicians and other providers while employed, thereby increasing their access to care while under Medicaid, and their regular providers may charge higher fees than the Medicaid specialists who normally treat the poor.

Inflation in medical care prices is not truly a cyclical occurrence, but rather reflects the longer run phenomenon in the health care market that providers have strong influence over both price and demand. With the important exception of hospitals, Medicaid provider reimbursements are at fixed levels and are only adjusted on a periodic basis at the option of the states. By Federal mandate, hospitals do receive reimbursement reflecting whatever their average costs may be. Reimbursements to other providers have been strictly controlled in some instances. For example, physicians have had their reimbursement levels frozen for several years in some states, while in others, reimbursements for only selected services have been updated while those for other services remain fixed.

The ability to control reimbursement levels for providers does not mean that Medicaid has been able to regulate total costs as quantity decisions are largely in the hands of participants and providers. Federal regulations require that program participants should receive most services without charge. While certain co-payments have been imposed for some services in selected states, such co-payments have been rather insignificant. The result is that for the bulk of participants the monetary price is truly zero. Participants then have little incentive to resist provider suggested services. Providers thus have sufficient control over the quantity supplied to achieve target incomes, irregardless of the reimbursement level.

States do have the authority to impose utilization controls such as prior authorizations for services, or limits on the number of services per period or per illness. Certain states have imposed some of these controls for limited time periods. However, fears about the unwillingness of providers to care for Medicaid patients under restrictive rules and pressure from provider lobbies has generally weakened the constraints imposed. This behavior on the part of states has changed recently, because of the severe fiscal pressure felt during the 74-75 recession, and several have imposed effective controls to curb costs.

To decompose the growth of Medicaid expenditures into the share due to cyclical influences, inflation, and that due to other causes, we have estimated regression relationships among the different components of Medicaid expenditures and cyclical and other variables. Changes in Medicaid costs can be decomposed into changes in the number of eligibles, in their participation rate, in the number of services per recipient, in the mix of services demanded, and in the price of those services. Data limitations did not permit distinguishing the number of services per recipient, the service mix, or the price of services so that our modelling was limited to predicting eligibles, the participation rate, and expenditures per recipient. In our context, the number of eligibles is not all those potentially eligible for Medicaid, but only those who are actually receiving cash assistance. Identification of the pool of potential eligibles is extremely difficult on a national basis and impossible for individual states. It is the end product of separate sets of regulations for each state and even some localities, that result in eligibles coming from virtually all social, demographic, and economic groups.

We chose to confine the analysis to the portions of the Medicaid program applicable for persons receiving Aid to Families with Dependent Children (AFDC) and medically needy persons in AFDC families. The other categories of eligibles, the aged, the blind, and the disabled, show little cyclical variation since only small segments of these populations are labor force participants. All persons meeting categorical requirements such as being in a family with dependent children, aged, blind, or disabled are eligible for medically needy assistance if their medical expenditures are sufficiently high. Since medical expenses are highly random events, identification of potential medically needy eligibles is not a fruitful task. Thus the estimated relationships for this group are limited to actual participants and expenditures per recipient.

The equations were estimated separately for a sample of eighteen states which were selected to provide a range in the severity of the impact from the 1974–75 recession.[1] The sample period in most instances was from the first quarter of 1967 to the third quarter of 1975 with data from some

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[1] The states selected were:

No Fiscal Strain	*Moderate Fiscal Strain*	*Severe Fiscal Strain*
California	Connecticut	Georgia
Iowa	Illinois	Michigan
Kentucky	Minnesota	Missouri
Lousiana	Oregon	Nebraska
Maryland	Pennsylvania	New York
Montana	Utah	Ohio
Oklahoma	Washington	South Carolina
Texas	Wisconsin	Virginia

states beginning later because of delays in their entry into Medicaid. The data on all program variables are observations for a single month within each quarter.

The equations for eligibles, recipients per eligible, and expenditures per recipient were used to calculate the proportion of the expenditure increases in fiscal year 1975 that were attributable to the recession; the proportion due to removal of price controls on health services; and the proportion arising from other causes. These calculations were only performed for the cash assistance recipient portion of Medicaid and not for the medically indigent. To derive these proportions, simulations were performed for three different scenarios. The first assumed that full employment rather than a recession had taken place during 1975. The second assumed that price controls had been continued from April 1974 to July 1975. The final scenario involved the assumption of both full employment and the continuation of price controls.

In Table 2A, growth rates for total expenditures are displayed. The table shows that virtually every state in our sample would have benefitted substantially from full employement and price controls. For example, had there been full employment and a continuation of price controls, program costs would have risen at a rate of 13.4 percent rather than 32.6 percent in Connecticut; 16.6 percent rather than 25.4 percent in Georgia; 8.0 percent rate rather than 16.8 percent in New York; at a rate 17.1 percent

Table 2A. Simulation results: growth rates for total Medicaid expenditures and its components

States	*Total Medicaid expenditures*			
	Actual	*If there had been no recession*	*With price cointrols*	*With price controls and no recession*
California	– 1.5	–12.8	– 7.6	–18.9
Connecticut	32.6	28.5	17.5	13.4
Georgia	25.4	27.8	14.2	16.6
Illinois	6.2	29.2	– 3.5	19.5
Iowa	23.4	23.5	11.2	11.2
Kentucky	8.3	– 3.2	8.0	– 3.4
Louisiana	2.9	4.6	– 4.5	– 2.7
Maryland	10.1	16.3	– 8.6	– 2.4
Michigan	20.6	26.3	17.5	23.2
Minnesota	8.4	3.9	– 2.7	– 7.1
Missouri	27.1	30.7	22.4	26.0
New York	16.8	14.7	10.1	8.0
Oregon	23.2	20.9	17.3	15.1
Pennsylvania	22.6	30.1	13.8	21.2
South Carolina	48.7	30.2	35.7	17.1
Virginia	28.2	23.4	8.4	3.7
Washington	37.2	36.8	21.8	21.3
Wisconsin	27.1	31.6	19.7	24.2

rather than 48.7 percent in South Carolina, and a 21.3 percent rate rather than 37.2 percent in Washington. Under full employment conditions and maintenance of price controls, Kentucky's expenditures would have fallen at a rate of 3.4 percent rather than increased at an 8.3 percent rate; Maryland would have had a reduction in expenditures at a 2.4 percent rate instead of a 10.1 percent rate increase; and Minnesota would have enjoyed a 7.1 percent rate decline in expenditures rather than increased at an 8.4 percent rate.

Three states, Illinois, Michigan, and Wisconsin, appear worse-off under the scenario of both full employment and price controls. For Illinois, the simulated rate of increase was 19.5 percent versus the actual rate of 6.2 percent; for Michigan and Missouri, the simulated rate is 23.2 percent compared to the actual rate of 20.6 percent. In the case of Illinois, the state made a strong effort to reduce the error rate in the AFDC program (i.e., the percent of cases receiving payments who are ineligible), reducing it from 12.9 percent in the last half of fiscal 1974 to 8.3 percent in the corresponding period of 1975.

The actual change in expenditures (Table 2B) per recipient was responsible for a major share of the actual growth in total expenditure. Thus, the reduction in expenditures per recipient due to controls moderates considerably the total growth of expenditures. In every state, the controls

Table 2B. Simulation results: growth rates for total Medicaid expenditures and its components

States	*Expenditures/Recipients*			
	Actual	*If there had been no recession*	*With price controls*	*With price controls and no recession*
California	.7	1.5	− 5.5	− 4.6
Connecticut	14.5	14.3	− .6	− .8
Georgia	22.1	32.7	10.9	21.4
Illinois	−10.2	− 1.0	−19.8	−10.7
Iowa	16.1	18.8	5.9	6.5
Kentucky	6.7	3.5	6.4	3.2
Louisiana	−42.8	−42.6	−50.2	−50.0
Maryland	15.3	14.0	− 3.4	− 4.6
Michigan	− 8.6	− 7.8	−11.8	−10.9
Minnesota	1.2	4.0	− 9.8	− 7.0
Missouri	16.1	18.2	11.4	13.5
New York	9.6	2.1	2.8	− 4.6
Oregon	5.2	10.2	− .6	4.4
Pennsylvania	2.7	4.4	− 6.2	− 4.4
South Carolina	28.3	24.1	15.2	11.1
Virginia	16.1	17.3	− 3.6	− 2.5
Washington	11.4	9.7	− 4.1	− 5.7
Wisconsin	12.2	12.2	4.8	4.9

would have resulted in some savings. Most dramatic were the two-thirds reduction in the growth rate that would have been experienced over the actual in Virginia, and the 150 percent reduction in Illinois, Kentucky exhibited the smallest change. Of the states which experienced very large actual rates of increase, Connecticut, Georgia, Missouri, South Carolina, Washington, and Wisconsin, the reductions which would have occurred with price controls were sizeable. In Missouri where the decline was the smallest, the rate of increase would have been 22 percent instead of 27 percent. Connecticut experienced the biggest decline among these six states, a 46 percent drop in the rate of increase going from 33 percent actual rate to an 18 percent predicted rate under controls.

The greater differences between the growth rates under the price controls versus the actual, as compared to those generated in the full employment scenario versus the actual, result in a larger proportion of the actual growth in expenditures for fifteen states being attributed to inflation rather than to the recession, as can be seen in Table 3. In Table 3, the growth in expenditures attributable to the recession, inflation, and other causes are displayed.

These simulations demonstrate that a major shift has occurred in the sources of expenditure increases for Medicaid. Previous studies showed that in the period prior to 1972, the dominant contributor to growth was the increase in the number of Medicaid eligibles. Now the simulations indicate that growth in the participation rate of these eligibles, and expendi-

Table 3. Sources of Medicaid cost increases FY 74–FY 75

States	*Growth rate due to recession*	*Growth rate due to inflation*	*Growth rate due to other causes*
California	11.3	6.1	−18.9
Connecticut	4.2	15.1	13.3
Georgia	−2.5	11.2	16.6
Illinois	−23.1	9.6	19.6
Iowa	0.0	12.2	11.2
Kentucky	11.5	.3	−3.4
Louisiana	−1.7	7.4	−2.7
Maryland	−6.2	18.8	−2.4
Michigan	−5.6	3.1	23.2
Minnesota	4.5	11.1	−7.1
Missouri	−3.5	4.7	30.0
New York	2.1	6.8	7.9
Oregon	2.3	5.9	15.1
Pennsylvania	−7.5	8.8	21.3
South Carolina	18.6	13.1	17.0
Virginia	4.7	19.7	3.7
Washington	0.5	15.4	21.4
Wisconsin	−4.5	7.4	24.2

tures per recipient, are much more important in affecting total expenditures. The latter in particular has become dominant, exceeding the participation rate in twelve states. As inflation is the important source of variation in expenditures per recipient, while the recession primarily affects eligibles, it is understandable that inflation has become the principal exogenous force affecting Medicaid expenditures.

In summary, the estimation and simulation results described above strongly suggest that inflation in medical care prices was the principal source of expenditure increases experienced by state Medicaid programs in fiscal 1975. One possible reaction to this finding would be that inflation in health services prices must be controlled before Medicaid expenditure increases will moderate. However, such a recommendation would be readily assailed in some quarters on grounds that Medicaid can be regarded as much a cause of inflation as its victim. Such criticism is not completely justified. Medicaid recipients do face zero monetary prices for health care, and thus might be expected to make excessive demands for services. However, Medicaid is not the only significant third-party payer in the health care market. Medicare and private insurance reduce the price to nominal levels for a much larger share of the population. Their demands probably exert much more pressure on prices than do those of Medicaid populations.

While Medicaid recipients face a zero price, state governments have acutely felt the burden of rising prices and have attempted a wide range of measures to control prices and reduce demand. Unlike its companion, Medicare, which has always paid customary, prevailing, or reasonable charges to physicians and reasonable costs to hospitals and nursing homes, Medicaid in many states has fixed physician's fees, set up fee schedules for dentists and other practitioners, paid flat rates or placed ceiling on reasonable cost payments to nursing homes, and in 1975, attempted to limit hospital rate increases. The result is a wide gap between reimbursement rates for Medicaid and Medicare in many states. States have also made attempts to control demand for Medicaid services through limits on utilization and various review mechanisms. However, as noted earlier, such attempts have had to be constrained to preserve access to providers for Medicaid recipients. The need for such restraint stems from the fact that other third-party payers have typically not been as vigilant in their efforts to limit either prices or excessive demands.

The singling out of Medicaid from among the third-party payers as the source of inflationary pressure, and the program which should be reformed, may largely result from its status as a welfare program. Its relationship to the federal-state welfare system makes Medicaid politically vulnerable because increases in public welfare spending are rarely popular politically, and welfare programs do not receive high priority in the allocation of scarce funds. The evidence seems to indicate that the Medicaid program in many states has attempted to provide needed services to a vulnerable segment of the population and has been administered relatively efficiently in comparison to other health insurance programs, particularly given the constraints imposed on it by federal regulation. Thus, it would seem that Medicaid has been much more a victim of inflation than a cause, and remedies to control cost increases must be sought from sources outside the program.

While inflation turned out to be the principal cause of the recent cost increases, the recession also contributed substantially in some states. The recession affected states not only by increasing eligibility, as shown in this paper, but also by reducing tax receipts of state governments. With the loss of revenues accompanying the recession, many state governments have been hard pressed to meet their rising obligations under Medicaid. While recessions are in large part the result of attempts to control national aggregate economic activity, their impact varies substantially among states. Thus it seems inappropriate that those states most severely affected in terms of employment loss should also have to bear a disproportionate burden of the monetary cost of a national economic policy. Currently, the federal contribution to Medicaid expenditures in a state depends on the per capita income in the state relative to the national average two years before. As a result, the federal share is relatively insensitive to the distribution of the recession's burden among the states. Thus, it seems critically important that the determination of the federal share of Medicaid expenditures reflect changes in cyclical conditions rather than outdated indicators of relative income. Indeed, many other programs, particularly in the manpower area, already make cyclical adjustments in the form of unemployment triggers which increase the share of federal financing when an area is hard pressed.

Another implication of the cyclical sensitivity of Medicaid costs and their components, in particular the number of eligibles, involves the question of whether Medicaid adequately is meeting or could meet the health care needs of low income persons. While this issue is not directly addressed here, our findings have some relevance in consideration of the problem. It is quite clear, from examination of welfare eligibility criteria, that a substantial number of those persons with temporarily low incomes due to unemployment are disqualified from AFDC assistance for various reasons. While many persons who suffer unemployment never become eligible for cash assistance and/or Medicaid, the numbers who do enter Medicaid during the recession are large enough to increase costs substantially in some states. Thus, if the program was modified to become comprehensive in covering low income persons, the cyclical costs increase could become an excessive burden on the states. This situation would point to consideration of a revised financing system.

Problems in the financing of Medicaid

The rapid expansion of the costs of the Medicaid program throughout its history coupled with the recent contractions of several programs in response to economic conditions has raised questions about the effectiveness and efficiency of current methods of financing the program. Medicaid is financed by federal and state funds on an open-ended matching grant basis where the federal contribution varies inversely with the income of the state. Several wealthy states, e.g., California, New York, Michigan, Massachusetts, and Illinois, receive a federal matching grant of 50 percent while Mississippi receives a contribution of 83 percent. The matching grant thus reduces the price of health service to the poor, for the state, and provides an offer of funds for any level of expenditures the state is willing to support at the changed prices. The first problem under current financing mechanisms is the inability of federal contributions to be responsive, in times of recession, to the fiscal strain faced by the states. Second, existing financing arrangements may encourage of fail to discourage states from managing programs efficiently. Finally, existing arrangements may result in an excessive allocation of resources to Medicaid relative to other public and private spending. This paper will address each of these concerns and examine alternative solutions.

The dramatic rise in unemployment rates in many parts of the United States and the ensuring decline in per capita income caused declining tax revenues and at the same time increased the demand for welfare and medical assistance. The decline in tax revenues and increased demand for welfare and medical assistance, coupled with the continued rapid rise in medical care prices, has created a severe fiscal dilemma for several state Medicaid programs. Exacerbating this dilemma is the federal/state sharing mechanisms for AFDC and MA which are computed using historic per capita income as their base. With the current arrangements, there is always a two- to three-year-lag between the years upon which the per capita income formula is based and the year in which it is applied. During recessionary periods the formula has the undesirable effect of reinforcing the state's financial difficulties. For example, the state's AFDC and MA share for fiscal year 1976 is based upon the state's economic experience in calendar years 1971, 1972, and 1973. In short, a state's financial burden during the 1974–75 recession was determined on the basis of experience during a prior period of affluence. After a recession, the current formula may induce unwarranted program expansion by including reduced income levels in the calculations, thus increasing the federal share in state expenditures.

The rationale for government financing of health care for the poor rests with the following kinds of arguments. First, hospital, medical, and other health related expenses are often unpredictable and large in relation to income. Because of inadequate information, uneven distribution of income, and the unwillingness of insurance firms to incur very large risks, the private market has failed to provide insurance against catastrophic illness.

The Medicaid program was established essentially because of dissatisfaction at the federal level with the extent of state support of health care for the poor. The program provides for open-ended matching grants to the states for financing of health services for a carefully defined low-income population. The immediate objective of Medicaid was to encourage states to establish a unified single medical assistance program. The program was also to include common levels of medical care for at least all recipients of federally-subsidized cash assistance. The program at first encouraged liberalization of eligibility standards and the provision of comprehensive medical services for all persons under a state's definition of medically needy. There is little question that expenditures for medical services for the poor have expended dramatically in virtually every state. To the extent that increased allocation of resources to health care for the poor was an objective of the Medicaid program, that objective has largely been met. Medicaid expenditures rose from $2.3 billion in 1967 to $12.1 billion in 1975.

The overwhelming problem now faced by federal and state officials is that total program expenditures are too high, that too many resources appear to be allocated to Medicaid and that the current system is allegedly fraught with waste and mismanagement. The widespread concern with costs of state Medicaid programs suggests that states are responding to more than short-term fiscal crises. Rather there is a general perception that the level of resources absorbed by Medicaid is excessive. More critical perhaps than the level of expenditures is the rate of increase. Table 4 shows the percentage increase in Medicaid expenditures per capita between 1970 and 1974 for each state. The percentage increase in per capita personal income is also given for each state, as well as the ratio of the percentage change in Medicaid expenditures per capita to the percentage change in per capita income. It is clear that in virtually every state the increase in Medicaid expenditures is outstripping the change in per capita income. Some states like California, Kentucky, and North Dakota have held the growth in Medicaid expenditures below the rate of growth of per capita income. Others, particularly states with programs adopted as recently as 1970 (Indiana, Mississippi, Tennessee) have experienced phenomenal growth in program expenditures.

In the previous section, we presented a number of arguments for and against the federal government absorbing the burden of financing the Medicaid program. The choice ultimately depends on one's beliefs that federalization is necessary to achieve equity in population and benefit coverage; that the ability to incur deficits is necessary to avoid unfortunate policy choices having short-term fiscal benefits; and that administrative coordination among financing and regulatory programs can only be achieved if Medicaid is absorbed at the federal level. Alternatively, if one believes that the ability to incur budget deficits permits legislators and bureaucrats to avoid difficult but necessary resource allocation decisions, and that states have obtained valuable administrative experience throughout the history of Medicaid, then one would be less enthusiastic about federalization. If federalization does not occur, then the main concern is to change the structure of present financing arrangements so that: (1) greater equity in population and benefit coverage is achieved; (2) the additional burden of financing the program during periods of recession does not fall on state and local governments; and (3) states face greater incentives to monitor fraud and abuse and make efficient use of health resources. We tend to prefer the latter strategy though it is clearly recognized that the argument for it rests on assumptions about state administrative capacity. In looking beyond Medicaid one is struck by the enormous effect national health insurance would have on both the federal budget and the federal bureaucracy. It seems almost inevitable, in the light of these factors, that a national health insurance pro-

Table 4. Changes in Medicaid expenditures and personal income, by state, 1970 to 1974

	(A) *Percentage change in Medicaid expenditures per capita, 1970-1974*	*(B)* *Percentage change in personal income per capita, 1970-1974*	*(A)/(B)*
Alabama	64.6	49.0	1.32
Arkansas	996.7	53.2	18.73
California	22.5	35.0	.64
Colorado	78.2	47.0	1.66
Connecticut	58.7	34.3	1.71
Delaware	130.2	49.0	2.66
District of Columbia	142.2	27.6	5.15
Florida	53.6	51.1	1.05
Georgia	70.4	44.4	1.59
Hawaii	45.2	33.4	1.35
Idaho	69.3	53.4	1.30
Illinois	196.9	38.0	5.18
Indiana	353.8	37.4	9.46
Iowa	156.3	42.1	3.71
Kansas	98.9	44.6	2.22
Kentucky	39.6	45.2	.88
Louisiana	105.3	42.3	2.49
Maine	268.5	41.5	6.47
Maryland	113.9	39.9	2.85
Michigan	137.0	45.5	3.01
Minnesota	100.4	42.9	2.34
Mississippi	318.9	47.3	6.74
Missouri	22.1	37.6	.59
Montana	110.9	46.6	2.38

Table 4. Changes in Medicaid expenditures and personal income, by state, 1970 to 1974—continued

	(A) Percentage change in Medicaid expenditures per capita, 1970-1974	(B) Percentage change in personal income per capita, 1970-1974	(A)/(B)
Nebraska	124.0	42.6	2.91
Nevada	45.4	32.4	1.40
New Hampshire	226.1	37.0	6.11
New Jersey	171.6	37.6	4.56
New Mexico	68.9	35.9	1.92
New York	110.5	28.5	3.88
North Dakota	37.2	90.1	.41
Ohio	154.9	38.5	4.02
Oklahoma	32.2	40.1	.80
Oregon	158.7	42.8	3.71
Pennsylvania	45.5	39.9	1.14
Rhode Island	74.9	36.3	2.06
South Carolina	63.4	48.2	1.32
South Dakota	99.5	47.2	2.11
Tennessee	243.3	49.2	4.95
Texas	158.1	40.9	3.87
Utah	67.4	39.3	1.72
Vermont	104.8	29.9	3.51
Virginia	284.5	48.9	5.82
Washington	49.2	43.0	1.14
West Virginia	60.8	49.3	1.23
Wisconsin	56.7	41.0	1.38
Wyoming	159.1	58.0	2.74

Sources:

U.S. Department Health, Education, and Welfare, Social and Rehabilitation Service NCSS, "Numbers of Recipients and Amounts of Payments under Medicaid, 1970" "Number of Recipients and Amounts of Payments under Medicaid, 1974."

U.S. Bureau of the Census, "Statistical Abstract of the U.S.: 1971" (92nd edition) Washington, D.C., 1971. "Statistical Abstract of the U.S.: 1975" (96th edition) Washington, D.C., 1975.

U.S. Department of Commerce, Bureau of Economic Analysis, "Survey of Current Business," various issues.

gram necessarily has to depend on state financing and administrative capacity. Therefore, it seems advisable that serious consideration be given at this time to alternative financing arrangements in Medicaid, not federalization. Federal policy should be designed to take advantage of existing state administrative abilities and provide stronger incentives for states to pursue federal program objectives.

One alternative which would encourage equity and greater attention to cost control while placing the burden of recession induced increases in demands on the program would be the following. First, the federal government should mandate uniform simplified eligibility determination criteria not tied to the welfare system. Second, the federal government should mandate a uniform and fairly comprehensive benefit package. The justification for these two recommendations follow from arguments presented in the earlier papers on eligibility and benefit coverage. Third, the federal government would make capitation grants based on the number of program enrollees in the state. While eligibility standards would be mandated at the federal level, capitation grants tied to the number of enrollees would encourage states to maximize participation. The capitation grants would be designed to support, say, one third of the cost of care of individuals in that state. Capitation grants would not be adjusted for income but would be different for children, adults, aged, chronically dependent, etc. (Note that in the latter case capitation grants should not be based on whether an individual is or is not institutionalized but on whether or not they are chronically dependent. This would hopefully encourage states to rely to a greater extent on non-institutional alternatives.) Fourth, a system of matching grants would supplement the capitation payments. These matching grants would be related to income but would have a lower structure of rates than at present. For example, the federal government might pay twenty percent of remaining Medicaid expenditures in wealthy states and up to fifty percent in poor states. Matching grants would also be adjusted for unemployment by increasing by two percentage points for each percentage point increase in the state unemployment rate over, say, seven percent. Under this arrangement, the incentives facing states would change considerably. Many states would be required and financially encouraged to expand eligibility and benefits. Federal payments as well as state outlays in those states would increase. States with generous programs at present would receive roughly the same level of Federal funds at present, at least initially. The main innovation is that incentives *at the margin* would be changed considerably. States would not be permitted to reduce eligibility or benefit packages and would lose federal funds if they did so indirectly through a passive approach to implementation. The benefits from monitoring fraud and abuse would increase considerably because states such as New York and Illinois would reap eighty percent of the savings. The same is true for implementing alternative payment methods for physicians, nursing homes and other providers. (Our preference is for such controls to be applied at the federal level and impact on a larger population, but this is a larger issue and beyond the scope of this proposal.) Other regulatory thrusts which would become even more attractive to the states would be: (1) utilization controls such as prior authorization and post-treatment review systems; and (2) controls over hospital and nursing home bed supply through coordination with state Health Systems Agencies. At the same time, because of an unemployment trigger, changes in reimbursement and regulatory policy would be based on long-term preferences, not in reaction to short-term crises.

This is not proposed as a well developed panacea. Many Medicaid problems cannot be solved by changing financing arrangements. However, this type of approach would eliminate most of the undesirable effects of present financing arrangements. It would encourage and permit states to move in desired directions, without great impact on the federal budget or on federal health agencies.

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16. Abstracts

A summary of the findings from seven studies on the effect of the 1974-75 economic recession on the health care of the disadvantaged is presented. Specific subjects studied were: (1) public finance, (2) trends in facility use, (3) utilization, (4) use of community hospitals in Rhode Island, (5) access to ambulatory care, (6) and (7) two studies on the impact of rising unemployment on the loss of job-related health insurance coverage. See back-of-title page for information on the names of the contractors, and instructions for purchasing the full reports.

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